





DR Pfam: PF00143: Interferon\_1.  
 DR PRINTS: PR00266: INTERFERON\_1.  
 DR PRODOM: PR000550: Interferon\_abd: 1  
 DR SMART: SM00076: Ipadb: 1  
 DR PROSITE: PS00252: INTERFERON\_A\_B\_D: 1  
 DR ACTIVITY: CYCLOKINE  
 SW SEQUENCE: 195 AA: 22139 MW: 6892443E203FE50A CRC64:  
 Query Match 40 38: Score 262.5; DB 6; Length 195;  
 Best local similarity 40.4%; Pred. No. 9, 7e-16;  
 Matches 57: Conservative 21; Mismatches 49; Indels 3; Gaps 2;

QY 19 KAWAGUCHI ET AL. 1996 (TREMUR1, 01, Created)  
 DB 49 ELLA-MN EUSUS-CHOROPHORI PWRVWVWVQVQKQDAISVLEHMLCQCHNLHTSHS 97  
 QY 77 JEMMETT ET AL. 1996 (TREMUR1, 01, Last sequence update)  
 DB 98 AAMNTLLEGLTGLHQAAGATACVAVTEKDSALCMQDILLVKEVYGCIVATLKKR 157  
 QY 137 EYSHCAWTVKVELL 152  
 DB 158 EYSHCAWTVKVELL 173

## RESULT 5

Q28844 PRELIMINARY: PPT: 195 AA.

AC Q28844  
 DT 01-NOV-1996 (TREMUR1, 01, Created)  
 DT 01-NOV-1996 (TREMUR1, 01, Last sequence update)  
 DT 01-DEC-2001 (TREMUR1, 19, Last annotation update)  
 DE Interferon-omega45.  
 OS Oryctolagus cuniculus (Rabbit).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 NC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.  
 OX NCBI\_TaxID: 9986;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE:94132653; PubMed:8301151;  
 RA Charlier M., L'Hartidon R., Reissard M., Martial J., Gavo P.;  
 RT "Cloning and structural analysis of four genes encoding Interferon-  
 omega in rabbit."  
 RL J. Interferon Res. 13:313-322(1993).  
 RL -1- SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA  
 CC FAMILY.  
 CC EMBL: S68993; AAC60526.1;  
 CC HSSP: P01563; 2HIE.  
 CC InterPro: IPR000471: Interferon\_abd.  
 CC Pfam: PF00143: Interferon\_1.  
 CC PRINTS: PR00266: INTERFERONAB.  
 CC PRODOM: PR000550: Interferon\_abd: 1.  
 CC SMART: SM00076: Ipadb: 1.  
 CC PROSITE: PS00252: INTERFERON\_A\_B\_D: 1  
 CC ACTIVITY: CYCLOKINE  
 SW SEQUENCE: 195 AA: 21981 MW: D4D2E3EF5134A5F CRC64:

Query Match 30 18: Score 261; DB 6; Length 195;  
 Best local similarity 41.9%; Pred. No. 1, 3e-15;  
 Matches 57: Conservative 21; Mismatches 58; Indels 0; Gaps 0;

QY 41 CLKPMNPPIPEETVQIFGQVGFPAATITVMQINFAIFRODSSSTGNETIVENILAN 90  
 DB 52 CLKPMNPPIPEETVQIFGQVGFPAATITVMQINFAIFRODSSSTGNETIVENILAN 111  
 QY 91 VTHQINILKTVLEKLEKELTETGMMSILPPYVPTIYVPAFVSHCAWTVVEI 150  
 DB 112 VTHQINILKTVLEKLEKELTETGMMSILPPYVPTIYVPAFVSHCAWTVVEI 171  
 QY 151 LNFYRINILGYLKN 166  
 DB 172 BRAFSTADLOESTLRS 187

## RESULT 6

Q28845 PRELIMINARY: PPT: 195 AA.

AC Q28845  
 DT 01-NOV-1996 (TREMUR1, 01, Created)  
 DT 01-NOV-1996 (TREMUR1, 01, Last sequence update)  
 DT 01-DEC-2001 (TREMUR1, 19, Last annotation update)  
 DE Interferon-omega45.  
 OS Oryctolagus cuniculus (Rabbit).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 NC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.  
 OX NCBI\_TaxID: 9986;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE:94132653; PubMed:8301151;  
 RA Charlier M., L'Hartidon R., Reissard M., Martial J., Gavo P.;  
 RT "Cloning and structural analysis of four genes encoding Interferon-  
 omega in rabbit."  
 RL J. Interferon Res. 13:313-322(1993).  
 RL -1- SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA  
 CC FAMILY.  
 CC EMBL: S69000; AAC60526.1;  
 CC HSSP: P01563; 2HIE.  
 CC InterPro: IPR000471: Interferon\_abd.  
 CC Pfam: PF00143: Interferon\_1.  
 CC PRINTS: PR00266: INTERFERONAB.  
 CC PRODOM: PR000550: Interferon\_abd: 1.  
 CC SMART: SM00076: Ipadb: 1.  
 CC PROSITE: PS00252: INTERFERON\_A\_B\_D: 1  
 CC ACTIVITY: CYCLOKINE  
 SW SEQUENCE: 195 AA: 21996 MW: 395E7007586A928 CRC64:

Query Match 29 28: Score 253; DB 6; Length 195;  
 Best local similarity 40.4%; Pred. No. 6, 8e-15;  
 Matches 55: Conservative 21; Mismatches 60; Indels 0; Gaps 0;

QY 31 CLKPMNPPIPEETVQIFGQVGFPAATITVMQINFAIFRODSSSTGNETIVENILAN 90  
 DB 52 CLKPMNPPIPEETVQIFGQVGFPAATITVMQINFAIFRODSSSTGNETIVENILAN 111  
 QY 91 VTHQINILKTVLEKLEKELTETGMMSILPPYVPTIYVPAFVSHCAWTVVEI 150  
 DB 112 VTHQINILKTVLEKLEKELTETGMMSILPPYVPTIYVPAFVSHCAWTVVEI 171  
 QY 151 LNFYRINILGYLKN 166  
 DB 172 BRAFSTADLOESTLRS 187

## RESULT 7

Q28562 PRELIMINARY: PPT: 195 AA.

AC Q28562  
 DT 01-NOV-1996 (TREMUR1, 01, Created)  
 DT 01-NOV-1996 (TREMUR1, 01, Last sequence update)  
 DT 01-DEC-2001 (TREMUR1, 19, Last annotation update)  
 DE Ovine interferon alpha precursor.  
 OS Ovis aries (Sheep).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 NC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Bovidae; Bovinae;  
 OC Bovidae; Caprinae; Ovis.  
 OX NCBI\_TaxID: 9940;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX TISSUE-LIVER;  
 RX MEDLINE:92039090; PubMed:1937057;  
 RA Whaley A.E., Garfoli R.S., Nakawa K.;  
 RT "Cloning and analysis of a gene encoding ovine Interferon alpha-11."  
 RL Gene 106:281-282(1991).  
 CC -1- SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA  
 CC FAMILY.









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OM protein - protein search, using sw model

Run on: May 6, 2003, 09:49:03; Search time 8 seconds  
(without alignments)  
860,634 Million cell updates/sec

Title: US-09-832-658a-26

Perfect score: 1 MAYAALN:QASMTTCYR... FVFIFMFYFVNFYTCYR 166

Sequence: Gaped 10.0, Gapext 0.5

Scoring table: BLASTSUM62  
Gaped 10.0, Gapext 0.5

Scrolled: 112892 seqs, 11476328 residues

Total number of hits satisfying chosen parameters: 112392

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database: SwissProt\_40.\*

Prod. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match Length	ID	Description
1	829	95.6	187	P01574 homo sapien
2	488.5	56.3	186	INB_FELCA
3	463.5	53.5	186	INB_HORSE
4	460.5	53.1	186	INB2_BOVIN
5	426.5	49.2	186	INB1_BOVIN
6	408.5	47.1	186	INB1_BOVIN
7	413	48.4	182	INB_MOUSE
8	326.5	37.7	184	INB_RAT
9	288	33.2	195	INB2_HORSE
10	270	31.1	195	INB1_HORSE
11	263.5	30.4	195	INB1_HORSE
12	257	29.6	195	INB1_BOVIN
13	255.5	29.5	195	INB1_HORSE
14	254	29.3	184	INB1_HORSE
15	254	29.3	184	INB1_HORSE
16	254	29.3	184	INB1_HORSE
17	251.5	29.2	172	INB1_BOVIN
18	251	29.2	195	INB1_SHEEP
19	251	29.2	195	INB1_SHEEP
20	251.5	29.1	188	INB2_HUMAN
21	251.5	29.0	188	INB2_HUMAN
22	251	29.0	195	INB1_SHEEP
23	251	29.0	195	INB1_SHEEP
24	250	28.8	184	INB1_HORSE
25	248	28.6	195	INB1_SHEEP
26	247.5	28.5	189	INB1_HUMAN
27	246.5	28.4	195	INB1_BOVIN
28	246.5	28.4	195	INB1_SHEEP
29	245	28.3	195	INB1_HUMAN
30	245	28.3	195	INB1_SHEEP
31	245	28.3	195	INB1_SHEEP
32	245	28.3	195	INB1_SHEEP
33	245	28.3	195	INB1_SHEEP

34	242.5	28.0	189	INB4_HUMAN	P05014 homo sapien
35	242.5	28.0	189	INB4_HUMAN	P01567 homo sapien
36	241.5	27.9	195	INB1_BOVIN	P01571 capra hircu
37	240	27.7	195	INB1_BOVIN	P28171 capra hircu
38	239	27.6	189	INB4_HUMAN	P01570 homo sapien
39	237.5	27.4	189	INB4_HUMAN	P01571 homo sapien
40	236	27.2	189	INB4_HUMAN	P05013 homo sapien
41	233	26.9	195	INB1_SHEEP	P01566 homo sapien
42	232.5	26.8	184	INB1_BOVIN	P28172 ovibos mosch
43	231.5	26.7	195	INB1_BOVIN	P01568 homo sapien
44	229.5	26.5	189	INB1_HUMAN	P01568 homo sapien
45	229	26.4	195	INB1_SHEEP	P08053 ovibos arles

## ALIGNMENTS

## RESULT 1

ID: INB\_HUMAN STANDARD, ERT: 187 AA.

AC: P01574: 21-JUL-1986 (Ref. 0), Created

DT: 21-JUL-1986 (Ref. 0), Last sequence update

DE: 15-JUN 2002 (Ref. 4), Last annotation update

GN: Interferon beta precursor (IFN-beta) (Fibroblast Interferon)

OS: Homo sapiens (Human)

OC: Eukaryota, Metazoa, Chordata, Vertebrata, Euteleostomi

OC: Mammalia, Euliparia, Primates, Catarrhini, Hominoidea, Homo

OC: NCBI-TaxID=9606

FP: SEQUENCE FROM N.A.

EX: MEDLINE=81198952; PubMed=6164984

KA: Lamm R.M., Adamson G., Facke A.L., Bock J.M., Gross M.,

KA: Natarajan R., Goeddel D.V.

KA: "Human fibroblast interferon gene lacks introns."

KA: Nucleic Acids Res. 9:1045-1052(1981).

KA: [2]

KA: SEQUENCE FROM N.A.

EX: MEDLINE=81005095; PubMed=6157631

KA: Taniuchi T., Ohno S., Fujii-Kuriyama Y., Muramatsu M.

KA: "The nucleotide sequence of human fibroblast interferon cDNA."

KA: Gene 10:11-15(1980).

KA: [1]

KA: SEQUENCE FROM N.A.

EX: MEDLINE=81053752; PubMed=6159580

KA: Houghton M., Eaton M.A.W., Stewart A.G., Smith J.C., East S.M.,

KA: Cartlin G.H., Lewis H.M., Patel J.P., Embley J.S., Carey N.H.

KA: "The complete amino acid sequence of human fibroblast interferon as

KA: deduced using synthetic oligonucleotide fragments of reverse

KA: transcriptase."

KA: Nucleic Acids Res. 8:2885-2894(1980).

KA: [6]

KA: SEQUENCE FROM N.A.

EX: MEDLINE=81053752; PubMed=6159584

KA: Goeddel D.V., Shapiro H.M., Velveton R., Lamm R., Chou K., Slamon A.

KA: Pestka S.

KA: "Synthesis of human fibroblast interferon by E. coli."

KA: Nucleic Acids Res. 8:4057-4074(1980).

KA: [7]

SEQUENCING: M.N.A.  
MEDLINE: MEDL25565; PubMed: 2414376;  
Moz 1.1, Subvol. p.3;  
on the relationship between human interferon alpha 1 and beta 1 genes;  
1 Interferon Res. 5:521-526(1985).  
[6]  
SEQUENCE of 1.66 FROM N.A.  
MEDLINE: MEDL34854; PubMed: 6159597;  
Hochberg M., Stewart A., Peck S.M., Potape J.S., Eaton M.A.W., Smith J.C., Patel J.P., Lewis H.M., Porter A.G., Birch J.R., Carr-Saunders E., Carey N.H.;  
The amino terminal sequence of human fibroblast interferon as deduced from reverse transcripts obtained using synthetic oligonucleotide primers;"  
No. 100-4615 Res. 6:1313-1351(1980).  
[9]  
DISULPHIDE BONDS;  
MEDLINE: MEDL25085; PubMed: 6162107;  
Wozniak E.;  
"Assignment of the disulphide bonds of leukocyte interferon;"  
Nature 290:306-307(1981).  
[10]  
SEQUENCE of 71.187 FROM N.A. (VARIANT CLONE P5525);  
MEDLINE: MEDL30686; PubMed: 6171735;  
Shepherd H.M., Lewis D., Stockham R.;  
"A single amino acid change in FEN-beta1 abolishes its antiviral activity;"  
Nature 294:563-565(1981).  
[11]  
X-RAY CRYSTALLOGRAPHY (2.2 ANGSTROMS);  
MEDLINE: MEDL3617; PubMed: 6442729;  
Kaufman M., Noller M., Boden C.B., Moter W., Lipscomb W.N., Goltz S.;  
"The crystal structure of human interferon beta at 2.2-A resolution;"  
Proc. Natl. Acad. Sci. U.S.A. 94:11813-11818(1997).  
[12]  
FUNCTION: HNS ANTI-VIRAL, ANTI-INTERFERAL AND ANTICANCER ACTIVITIES.  
[13]  
SUBCELLULAR LOCATION: Secreted.  
[14]  
PHARMACOKINETIC: Available under the names Avonex (Roche), betaseron (Novax) and Rebit (Sotera); used in the treatment of multiple sclerosis (MS); betaseron is a slightly modified form of FEN1 with two residue substitutions.  
[15]  
SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA FAMILY.  
[16]  
! DATABASE: NAME AVONEX; NOTE Clinical information on Avonex;  
WWW: <http://www.roche.com>.  
[17]  
! DATABASE: NAME betaseron; NOTE Clinical information on betaseron;  
WWW: <http://www.betaseron.com/clinical.htm>.  
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QY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
QY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
QY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
QY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
QY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
QY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79																					

PT	VAROHTO	101	N-LINKED (GLYCAC. . .)	(POTENTIAL).
FT <th>VAROHTO</th> <th>101</th> <th>N-LINKED (GLYCAC. . .)</th> <th>(POTENTIAL).</th>	VAROHTO	101	N-LINKED (GLYCAC. . .)	(POTENTIAL).
SO <th>SEUDENTE</th> <th>186 AA</th> <th>AEVF3AFDFO006E6G CRG64</th> <th></th>	SEUDENTE	186 AA	AEVF3AFDFO006E6G CRG64	

Best Local Similarity	54.98	Pred. No.	2,906-62
Matches	40	Mismatches	42
		Indels	1
		Gaps	1













Matches 57; Conserved: 40; Mismatches: 59; Indels: 3; Gaps: 2

07 19 KILWOLNRL--EYGLKRNMFDPPEIKOLOQFOKRAALTYEMONTFAPFOSSS 76  
 08 39 KILQOMR-KLSPKLODRKDFAPQVVEVSQFOQAALSYHEMLQSPFLFKERS 97  
 09 77 TQWNETVENLAVYRQIRHLKTVLEKLEKEDFTGALSSSLHKKYVGLHYLAK 136  
 10 98 AAMDTLELQALLTGHQIDLADCLGLTGHFHSALGRIGPTLAKRFVQGIHVYLOEK 157  
 11 137 EYSHFAMITVAVELLKRNPRINRLTYGR 165  
 12 158 GYSDAMEIVLEIMSLSSSTIOERLR 186

## RESULT 14

1D INAL\_HORSE STANDARD: PRT: 184 AA  
 AC POS005;  
 DT 13-AUG-1987 (rel. 05, created)  
 DT 13-AUG-1987 (rel. 05, last sequence update)  
 DT 15-JUN-2002 (rel. 41, last annotation update)  
 DE Interferon alpha-1 precursor.  
 OS Equus caballus (horse).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 NC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.  
 NC MIM1\_taxid=9796;  
 RN [1]  
 RP MEDLINE=87054170; PubMed=3022999;  
 RA Himmeler A., Hoppmann R., Adolt G.R., Swilly F.;  
 RT Molecular cloning and expression in Escherichia coli of equine type  
 1 interferon.  
 RT DNA 5:345-356(1986).  
 CC -1- FUNCTION: PRODUCED BY MACROPHAGES, IFN-ALPHA HAVE ANTIVIRAL  
 CC ACTIVITIES. INTERFERON STIMULATES THE PRODUCTION OF TWO ENZYMES:  
 CC A PROTEIN KINASE AND AN OLIGONUCLEOTIDE SYNTHETASE.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA  
 CC FAMILY.  
 CC -----  
 CC This SWISS-PROT entry is copyright. It is produced through a collaboration  
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 CC or send an email to [license@sib-sib.ch](mailto:license@sib-sib.ch)).

07 EMBL: M14540; AAA0954.1;  
 08 PIR: A24912; IYHOA1.  
 08 HSSP: F01563; 2HIF.  
 08 Interferon: IP8000471; Interferon\_abd.  
 08 Pfam: PF00144; Interferon\_1.  
 08 PRINTS: PR00266; INTERFERON.  
 08 PRODOM: P0000550; Interferon\_abd; 1.  
 08 SMART: SM00076; Ipad; 1.  
 08 PROSITE: PS00252; INTERFERON\_A\_R-D; 1.  
 08 Cys-Pro: Antiviral; Multigene family; Signal.  
 08 SIGNAL 1 23 INTERFERON ALPHA-1.  
 08 CHAIN 24 184 BY SIMILARITY.  
 08 DISULFID 24 122 BY SIMILARITY.  
 08 DISULFID 52 162 BY SIMILARITY.  
 08 SEQUENCE 184 AA: 20808 MW: 95805.67053856 CPG44

Query Match 29.3%; Score 254; GB 1; Length 184;  
 Best Local Similarity 33.5%; Pred. No. 8 1e-15;  
 Matches 49; Conservative 27; Mismatches 48; Indels 0; Gaps 0;

07 31 CLKDRNMFDPPEIKOLOQFOKRAALTYEMONTFAPFOSSSSTGNTVENLAN 90  
 08 52 CLKDRNDFGPEVFGNDFRRAALSAVHETIOIFLFTSTGSSAAWESLDRKYTG 111

07 91 VYHOLNKLTVLEKLEKEDFTGALSSSLHKKYVGLHYLAK 150  
 08 112 LYQUTLELQALLTGHQIDLADCLGLTGHFHSALGRIGPTLAKRFVQGIHVYLOEK 171

09 151 LKNF 154  
 10 172 MRSF 175

## RESULT 15

1D INAL\_HORSE STANDARD: PRT: 184 AA  
 AC POS005;  
 DT 13-AUG-1987 (rel. 05, created)  
 DT 13-AUG-1987 (rel. 05, last sequence update)  
 DT 15-JUN-2002 (rel. 41, last annotation update)  
 DE Interferon alpha-1 precursor.  
 OS Equus caballus (horse).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 NC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.  
 NC MIM1\_taxid=9796;  
 RN [1]  
 RP MEDLINE=87054170; PubMed=3022999;  
 RA Himmeler A., Hoppmann R., Adolt G.R., Swilly F.;  
 RT Molecular cloning and expression in Escherichia coli of equine type  
 1 interferon.  
 RT DNA 5:345-356(1986).  
 CC -1- FUNCTION: PRODUCED BY MACROPHAGES, IFN-ALPHA HAVE ANTIVIRAL  
 CC ACTIVITIES. INTERFERON STIMULATES THE PRODUCTION OF TWO ENZYMES:  
 CC A PROTEIN KINASE AND AN OLIGONUCLEOTIDE SYNTHETASE.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA  
 CC FAMILY.  
 CC -----  
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 CC or send an email to [license@sib-sib.ch](mailto:license@sib-sib.ch)).

07 EMBL: M14542; AAA0951.1;  
 08 PIR: A16555; CAA01292.1;  
 08 PIR: C24912; IYHOA1.  
 08 HSSP: F01563; 2HIF.  
 08 Interferon: IP8000471; Interferon\_abd.  
 08 Pfam: PF00144; Interferon\_1.  
 08 PRINTS: PR00266; INTERFERON.  
 08 PRODOM: P0000550; Interferon\_abd; 1.  
 08 SMART: SM00076; Ipad; 1.  
 08 PROSITE: PS00252; INTERFERON\_A\_R-D; 1.  
 08 Cys-Pro: Antiviral; Multigene family; Signal.  
 08 SIGNAL 1 23 INTERFERON ALPHA-1.  
 08 CHAIN 24 184 BY SIMILARITY.  
 08 DISULFID 24 122 BY SIMILARITY.  
 08 DISULFID 52 162 BY SIMILARITY.  
 08 SEQUENCE 184 AA: 20782 MW: 40150.941E7A0044A CPG44

Query Match 29.4%; Score 254; GB 1; Length 184;  
 Best Local Similarity 39.5%; Pred. No. 8 1e-15;  
 Matches 49; Conservative 27; Mismatches 48; Indels 0; Gaps 0;

07 31 CLKDRNMFDPPEIKOLOQFOKRAALTYEMONTFAPFOSSSSTGNTVENLAN 90  
 08 52 CLKDRNDFGPEVFGNDFRRAALSAVHETIOIFLFTSTGSSAAWESLDRKYTG 111  
 09 91 VYHOLNKLTVLEKLEKEDFTGALSSSLHKKYVGLHYLAK 150  
 10 112 LYQUTLELQALLTGHQIDLADCLGLTGHFHSALGRIGPTLAKRFVQGIHVYLOEK 171

11:11  
172 MBSE 175

Search completed: May 6, 2003, 09:52:46  
Job Name: 172 MBSE



K.Wetzel, K.  
 Nature 289: 606-607, 1981  
 A>Title: Assignment of the disulphide bonds of leukocyte interferon.  
 A:Reference number: A94244; MIMD:6126984; PMID:6126107  
 A:Keywords: amino acid; disulfide bond  
 A:Abstract: H.M.; Leong, D.; Stobbing, N.; Goeddel, D.V.  
 Nature 294: 563-565, 1981  
 A>Title: A single amino acid change in IFN-beta-1 abolishes its antiviral activity.  
 A:Reference number: A94249; MIMD:6200684; PMID:6121745  
 A:Accession: A94249  
 A:Molecule type: mRNA  
 A:Accession: 21161; CY:163-167; SHP  
 A:Note: The loss of Cys-162 (and of the ability to form the essential disulfide bond) in recombinant J. Mizuno, Y.; Hosoi, K.; Okano, K.; Sawada, E.; Kaitani, M.; Sakai, T.; Nakamura, J.; Bloch, M.; 545-553, 1989  
 A>Title: Characterization of four different mammalian cell-derived recombinant human int  
 A:Reference number: S04479; MIMD:9276346; PMID:2731537  
 A:Accession: S04479  
 A>Status: preliminary  
 A:Molecule type: protein  
 A:Accession: 22167; OHS  
 A:May: 1.1; Stobbing, N.B.  
 A:Interferon Res. 5: 521-526, 1985  
 A>Title: On the relationship between human interferon alpha-1 and beta-1 genes.  
 A:Reference number: 156415; MIMD:6603565; PMID:2414376  
 A:Accession: 156415  
 A>Status: preliminary  
 A:Molecule type: translated from GB/EMBL/DBEM  
 A:Accession: 1187; SMS  
 A:Cross reference: GB:M29622; NID:4184624; PDB:AAA6040.1; PDB:q184625  
 A:Keywords: interferon  
 A:Accession: 1187; SMS  
 A:Cross reference: GB:M29622; NID:4184624; PDB:AAA6040.1; PDB:q184625  
 A:Map position: 921-921  
 A:Superfamily: interferon alpha  
 A:Keywords: antiviral  
 F1.21/Domains: signal sequence #status predicted <SIG>  
 F1.22/187/precursor: interferon beta-1 #status experimental <MAT>  
 F1.52-162/disulfide bonds: #status predicted  
 Query Match  
 Best local Similarity 95.6%; Score 829; DB 1; Length 187;  
 Matches 150; conservative 1; Mismatches 6; Indels 0; Gaps 0;  
 1 MAVALGALQASSNPQYKILMQLNPLEEGLFGRNMFQPEPEKIGCFKSCALATY 60  
 22 MSYNIARFQQRSSALQCKILKQIPSTPQCHLFAHDFPMPEDKQAOQFQKDAIVY 82  
 61 EMQNFALFRQSSSTGNMTVENLANVYQINHLKIVLEKLEKPEFGALMSSL 120  
 82 EMQNFALFRQSSSTGNMTVENLANVYQINHLKIVLEKLEKPEFGALMSSL 141  
 141 HEFVYFELLYVFAALYKQWAVTVKVVGLASVYVNSTLQTN 166  
 142 LKRYFNLVYKRFVNPVAVTVVGLPPEFSTLPLKYL 185  
 RESULT 2  
 IVDOR1  
 Interferon beta-1 precursor - horse  
 A:Molecule type: protein  
 A:Accession: A09956; MIMD:87053170; PMID:4022999  
 A:Molecule type: mRNA  
 A:Accession: 1186; HIM  
 A:Cross reference: GB:M14546; NID:4164226; PDB:AAA2954.1; PDB:q142299

C:Superfamily: Interferon alpha  
 C:Keywords: antiviral; glycoprotein  
 F1.21/Domains: signal sequence #status predicted <SIG>  
 F1.22/186/precursor: interferon beta-1 #status predicted <MAT>  
 F1.51/136/Binding site: carbohydrate (Asn) (covariant) #status predicted  
 Query Match  
 Best local Similarity 53.5%; Score 461.5; DB 1; Length 186;  
 Matches 95; conservative 25; Mismatches 4; Indels 1; Gaps 1;  
 3 YAAIGALQASSNPQYKILMQLNPLEEGLFGRNMFQPEPEKIGCFKSCALATY 62  
 24 YDLIRFQQRSSALQCKILKQIPSTPQCHLFAHDFPMPEDKQAOQFQKDAIVY 84  
 63 EMQNFALFRQSSSTGNMTVENLANVYQINHLKIVLEKLEKPEFGALMSSL 122  
 84 LQITWIFRFRNASTGNMTVENLANVYQINHLKIVLEKLEKPEFGALMSSL 142  
 123 KRYGRILHLYLAKREYSECAWTVVEVILRNPFYINRGLYLN 166  
 143 KRYGRISQYLAKREYSECAWTVVEVILRNPFYINRGLYLN 186  
 RESULT 3  
 IVDOR2  
 Interferon beta-2 precursor - bovine  
 C:Species: Bos primigenius laurus (cattle)  
 C:Date: 15 Nov 1984 #sequence revision 15 Nov 1984 #text change 07 Feb 1997  
 C:Accession: A01840  
 R:Leung, D.W.; Capon, D.J.; Goeddel, D.V.  
 Bio/Technology 2: 458-464, 1984  
 A>Title: The structure and bacterial expression of three distinct bovine interferon-b  
 A:Reference number: A09097  
 A:Accession: A01840  
 A:Molecule type: DNA  
 A:Accession: 1-186; CPN  
 C:Superfamily: interferon alpha  
 C:Keywords: glycoprotein  
 F1.21/Domains: signal sequence #status predicted <SIG>  
 F1.22-186/precursor: interferon beta-2 #status predicted <MAT>  
 F1.52-161/disulfide bonds: #status predicted  
 F1.51/173/Binding site: carbohydrate (Asn) (covariant) #status predicted  
 Query Match  
 Best local Similarity 53.1%; Score 460.5; DB 1; Length 186;  
 Matches 90; conservative 31; Mismatches 42; Indels 1; Gaps 1;  
 2 YAAIGALQASSNPQYKILMQLNPLEEGLFGRNMFQPEPEKIGCFKSCALATY 61  
 23 SYSLRFRQQRSSALQCKILKQIPSTPQCHLFAHDFPMPEDKQAOQFQKDAIVY 82  
 62 EMQNFALFRQSSSTGNMTVENLANVYQINHLKIVLEKLEKPEFGALMSSL 121  
 83 MLOQIFNLTFRPSTGSESTLEHLEFLEYQNMHLEPQKLEIMQKNSIMQ-TYVH 141  
 142 LKRYFNLVYKRFVNPVAVTVVGLPPEFSTLPLKYL 165  
 142 LKRYFNLVYKRFVNPVAVTVVGLPPEFSTLPLKYL 185  
 RESULT 4  
 IVDOR3  
 Interferon beta-2 precursor - bovine  
 C:Species: Bos primigenius laurus (cattle)  
 C:Date: 15 Nov 1984 #sequence revision 15 Nov 1984 #text change 07 Feb 1997  
 C:Accession: A01841  
 R:Leung, D.W.; Capon, D.J.; Goeddel, D.V.  
 Bio/Technology 2: 458-464, 1984  
 A>Title: The structure and bacterial expression of three distinct bovine interferon-b  
 A:Reference number: A09097  
 A:Accession: A01841  
 A:Molecule type: DNA  
 A:Accession: 1-186; CPN







```

C>Date: 28-Dec-1987 #sequence_revision 28-Dec-1987 #text_change 18-Jun-1999
C:/Accession: D24912
R/Himmler, A.; Hauptmann, R.; Adolf, G.R.; Swelly, P.
DNA 5, 345-356, 1986
ATTfile: Molecular cloning and expression in Escherichia coli of equine type I interferon
A/reference number: A00956; M010:8705/170; PMID:8022999
A/accession: D24912
A/molecule type: cDNA
A/residues: 184 aa:185
A/cross references: GB:M14543; NID:g164224; FIDN:AAA0052.1; PID:g164225
C/superfamily: interferon alpha
C/keywords: antiviral
F124-184/Product: Interferon alpha-1-4 #status predicted <MAT>
F124 122/52/162/Disulfide bonds: #status predicted
Query Match          29.3% Score 2541 ID 1 Length 184
Best Local Similarity 39.5% Pred No. 4 Le 14
Matches 43 Conserved 27 Mismatches 48 Indels 0 Gaps 0
31 CLKLEMPDPEIKKQVDFCKSLALITVMGHLFAFGSSSTNNELVENIAN 90
||||| :| :||| | ||| | :||| :| :||| :| :||| :| :||| :|
Db 52 CLYQENPCTPCVFQSGFRKQASAVNETLGLTFPTGGSSAAHPESLLKLYIG 111
91 VINDINLRKVLEELLKKDPHGLMSLHEKYVACTHYLKAEYSKAMTVWVEI 150
||| :| :| :| :| :| :| :| :| :| :| :| :| :| :| :| :| :| :|
Db 112 LYQDLIFPAISGVIVETPLMNHSLAVKYEKLTHYLPKPKSYKAMTVWAFI 171
QY 151 LRNF 154
|||
Db 172 MRSF 175

RESULT 13
IVHOA3
Interferon alpha-1-3 precursor - horse
N/Alternate names: EqufN-alpha-1-3; type I interferon
C/species: Equus caballus (domestic horse)
C/date: 28-Dec-1987 #sequence_revision 28-Dec-1987 #text_change 18-Jun-1999
C/accession: C24912
R/Himmler, A.; Hauptmann, R.; Adolf, G.R.; Swelly, P.
DNA 5, 345-356, 1986
ATTfile: Molecular cloning and expression in Escherichia coli of equine type I interferon
A/reference number: A00956; M010:8705/170; PMID:8022999
A/accession: C24912
A/molecule type: cDNA
A/residues: 184 aa:185
A/cross references: GB:M14543; NID:g164224; FIDN:AAA0052.1; PID:g164225
C/superfamily: interferon alpha
C/keywords: antiviral
F124-184/Product: Interferon alpha-1-4 #status predicted <MAT>
F124 122/52/162/Disulfide bonds: #status predicted
Query Match          29.3% Score 2541 ID 1 Length 184
Best Local Similarity 39.5% Pred No. 4 Le 14
Matches 43 Conserved 27 Mismatches 48 Indels 0 Gaps 0
31 CLKLEMPDPEIKKQVDFCKSLALITVMGHLFAFGSSSTNNELVENIAN 90
||||| :| :||| | ||| | :||| :| :||| :| :||| :| :||| :|
Db 52 CLYQENPCTPCVFQSGFRKQASAVNETLGLTFPTGGSSAAHPESLLKLYIG 111
91 VINDINLRKVLEELLKKDPHGLMSLHEKYVACTHYLKAEYSKAMTVWVEI 150
||| :| :| :| :| :| :| :| :| :| :| :| :| :| :| :| :| :| :|
Db 112 LYQDLIFPAISGVIVETPLMNHSLAVKYEKLTHYLPKPKSYKAMTVWAFI 171
QY 151 LRNF 154
|||
Db 172 MRSF 175

RESULT 14
IVHOA1

```









XX WPI: 2000-349654/29

XX Position proteins comprising interferon beta Ia useful for inhibiting  
XX angiogenesis

XX Example 1: Page 69, 84pp: English.

XX The patent discloses fusion proteins comprising glycosylated  
XX interferon beta (IFN beta) especially IFN-beta-1a, linker groups and  
XX non IFN beta proteins, especially an immunoglobulin (Ig) protein. The  
XX fusion protein is useful for inhibiting angiogenesis in a patient.  
XX It may also be used to treat multiple sclerosis, fibrosis, inflammatory  
XX and autoimmune diseases, cancers, hepatitis and viral infection  
XX characterized by neovascularization. The present sequence is  
XX a wild type human interferon beta protein which was used to  
XX generate alternative substituted mutants that have substitutions in helices  
XX A, B, C, D or E, or loops AB, CD or DE. The IFN-beta mutants were  
XX assessed for receptor binding and functional activities e.g. antiviral  
XX and antiproliferative activities. Mutants having desired characteristics  
XX were used to generate IFN-beta fusion proteins.

XX Sequence 166 AA:

Query Match 97.1% Score 842; DB 21; Length 166;  
Host Local Similarity 97.0% Prod. No. 2,4e-70;  
Matches 161; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

07 1 MAVVALALGASSNPQGLIWOINSELYTIRKPNHILPEIKQDQPEKVALITY 60

10 1 MSYNLALGSSNPQGLIWOINSELYTIRKPNHILPEIKQDQPEKVALITY 60

07 61 EMGNLFAIFPGLSSSTSMNLTIVNINLVNYYHQINHEKVELELEKELKALMSSTL 120

10 61 EMGNLFAIFPGLSSSTSMNLTIVNINLVNYYHQINHEKVELELEKELKALMSSTL 120

07 121 HEKPYKPELVHLYAKAYNSHWAMIVYVGLKNSYKINLQYKRN 166

10 121 HEKPYKPELVHLYAKAYNSHWAMIVYVGLKNSYKINLQYKRN 166

RESULT 5

AAV70907

XX AAV70907 standard; Protein: 166 AA.

XX AAV70907

XX 31-JUN-2000 (first entry)

XX Human interferon beta alanine substituted mutant H93A.

XX Human interferon beta; IFN-beta; immunoglobulin; fusion protein; mutant;  
XX angiogenesis; antiproliferative; anti-inflammatory; immunosuppressive;  
XX cytostatic; virucide; hepatotropic; antitumorogenic; treatment; fibrosis;  
XX multiple sclerosis; inflammatory disease; autoimmune disease; cancer;  
XX hepatitis; viral infection; neovascularisation; IFN-beta-1a.

XX Homo sapiens.

XX Synthetic.

XX Key: location/Qualifiers

XX Misc-difference 97 /note "Wild type His is substituted by Ala"

XX W0200023472-A2.

XX 27-APR-2000.

XX 15-OCT-1999; 99WO 0824200.

XX 16-OCT-1998; 9808 0104491.

XX 16-FEB-1997; 9605 0120247.

0A (BIOJ) BIOGEN INC.

XX Whittly A, Kunkel L, Bricekmaier M, Hochman P

XX WPI: 2000-349654/29.

XX Position proteins comprising interferon beta Ia useful for inhibiting  
XX angiogenesis

XX Example 1: Page 82pp: English.

XX The patent discloses fusion proteins comprising glycosylated  
XX interferon-beta (IFN beta) especially IFN beta-1a, linker groups and  
XX non IFN beta proteins, especially an immunoglobulin (Ig) protein. The  
XX fusion protein is useful for inhibiting angiogenesis in a patient.  
XX It may also be used to treat multiple sclerosis, fibrosis, inflammatory  
XX and autoimmune diseases, cancers, hepatitis and viral infection  
XX characterized by neovascularisation. The present sequence is  
XX a human interferon-beta alanine substituted mutant H93A.  
XX The mutant was analysed in antiviral assays to assess the effects  
XX of mutating the histidines which chelate zinc in the crystal structure  
XX dimer. The His mutants retained wild type activity suggesting that  
XX zinc-mediated dimer formation is not important for IFN-beta activity.  
XX Note: The present sequence is not shown in the specification but is  
XX derived from wild type human IFN beta sequence found in page 46  
XX (AAV70871).

XX Sequence 166 AA:

Query Match 96.0% Score 842; DB 21; Length 166;  
Host Local Similarity 96.1% Prod. No. 2e-69;  
Matches 160; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

07 1 MAVVALALGASSNPQGLIWOINSELYTIRKPNHILPEIKQDQPEKVALITY 60

10 1 MSYNLALGSSNPQGLIWOINSELYTIRKPNHILPEIKQDQPEKVALITY 60

07 61 EMGNLFAIFPGLSSSTSMNLTIVNINLVNYYHQINHEKVELELEKELKALMSSTL 120

10 61 EMGNLFAIFPGLSSSTSMNLTIVNINLVNYYHQINHEKVELELEKELKALMSSTL 120

07 121 HEKPYKPELVHLYAKAYNSHWAMIVYVGLKNSYKINLQYKRN 166

10 121 HEKPYKPELVHLYAKAYNSHWAMIVYVGLKNSYKINLQYKRN 166

RESULT 6

AAV70908

XX AAV70908 standard; Protein: 166 AA.

XX AAV70908

XX 31-JUN-2000 (first entry)

XX Human interferon-beta alanine substituted mutant H97A.

XX Human interferon-beta; IFN-beta; immunoglobulin; fusion protein; mutant;  
XX angiogenesis; antiproliferative; anti-inflammatory; immunosuppressive;  
XX cytostatic; virucide; hepatotropic; antitumorogenic; treatment; fibrosis;  
XX multiple sclerosis; inflammatory disease; autoimmune disease; cancer;  
XX hepatitis; viral infection; neovascularisation; IFN-beta-1a.

XX Homo sapiens.

XX Synthetic.

XX Key: location/Qualifiers

XX Misc-difference 97 /note "Wild type His is substituted by Ala"

XX W0200023472-A2.

XX 27-APR-2000.

PF 15-OCT-1999 99WD-0524200.  
 XX  
 PR 16-OCT-1998 980S-0104491.  
 PR 16-FEB-1999 990S-0120237.  
 XX  
 XX (BIOJ) BIOGEN INC.  
 XX  
 PF Whittly A. 9904011 Bricelmatator M. Hochman P.  
 XX  
 DB WPI: 2000-339654/29.  
 XX  
 XX Fusion proteins comprising interferon-beta-1a useful for inhibiting  
 PT angiogenesis -  
 PT  
 PS Example 1: Page 7: 82pp: English.  
 XX  
 CC The patent discloses fusion proteins comprising glycosylated  
 CC interferon-beta (IFN-beta) especially IFN-beta-1a, linker groups and  
 CC non-IFN beta proteins, especially an immunoglobulin (Ig) protein. The  
 CC fusion protein is useful for inhibiting angiogenesis in a patient.  
 CC It may also be used to treat multiple sclerosis, fibrosis, inflammatory  
 CC and autoimmune diseases, cancers, hepatitis and viral infection  
 CC characterized by neovascularisation. The present sequence is  
 CC a human interferon-beta alanine substituted mutant H97A.  
 CC The mutant was analysed in antiviral assays to assess the effects  
 CC of mutating the histidines which chelate zinc in the crystal structure  
 CC dimer. The His mutants retained wild type activity suggesting that  
 CC zinc-mediated dimer formation is not important for IFN-beta activity.  
 CC Note: The present sequence is not shown in the specification but is  
 CC derived from wild type human IFN-beta sequence found in page 36  
 CC (AAV70871).  
 XX  
 SU Sequence 166 AA:  
 Query Match 96.0% Score 832, DB 21, Length 166;  
 Best Local Similarity 96.4% Pred. No. 2e-69; Indels 0; Gaps 0;  
 Matches 160; Conservative 1; Mismatches 5;  
 QY 1 MAAVALGACASSHFCQKIMQJHCELYGKEDKEMNTTPTPTKQDQPPKEMATITY 60  
 DB 1 MSYMLDCELFSSNFCQKIMQJHCELYGKEDKEMNTTPTPTKQDQPPKEMATITY 60  
 QY 61 EMLGNITAFIFKQSSSSIGWNETIVSNLANVYR;SHEKIVLEERY;EVEVETWMAWSSG 120  
 DB 61 EMLGNITAFIFKQSSSSIGWNETIVSNLANVYR;SHEKIVLEERY;EVEVETWMAWSSG 120  
 QY 121 HIKRYGRILDAFLKAKESHCAMTVVEVLLPNFPIINRITGVLRN 166  
 DB 121 HIKRYGRILDAFLKAKESHCAMTVVEVLLPNFPIINRITGVLRN 166  
 RESULT 7  
 AAV70909  
 ID AAV70909 standard; Protein: 166 AA.  
 AC AAV70909;  
 XX  
 DT 31-JUL-2000 (first entry)  
 XX  
 DE Human interferon-beta alanine substituted mutant H121A.  
 XX  
 KW Human; interferon beta; IFN-beta; immunoglobulin; fusion protein; mutant;  
 KW angiogenesis; antisclerotic; anti-inflammatory; immunosuppressive;  
 KW cytotoxic; virals; hepatitis; antiangiogenic; treatment; fibrosis;  
 KW multiple sclerosis; inflammatory disease; autoimmune disease; cancer;  
 KW hepatitis; viral infection; neovascularisation; IFN-beta-1a.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 FT Key location/qualifiers  
 FT Misc difference 121 /note: "Wild type His is substituted by Ala"  
 FT

XX  
 XX W020023472-A2.  
 XX  
 PD 27-APR-2000  
 XX  
 XX 15-OCT-1999 99WD-0524200.  
 XX  
 XX 15-OCT-1998 980S-0104491.  
 XX  
 PR 16-FEB-1999 990S-0120237.  
 XX  
 XX (BIOJ) BIOGEN INC.  
 XX  
 PF Whittly A. 9904011 Bricelmatator M. Hochman P.  
 XX  
 DB WPI: 2000-339654/29.  
 XX  
 XX Fusion proteins comprising interferon-beta-1a useful for inhibiting  
 PT angiogenesis -  
 PT  
 PS Example 1: Page 7: 82pp: English.  
 XX  
 CC The patent discloses fusion proteins comprising glycosylated  
 CC interferon-beta (IFN-beta) especially IFN-beta-1a, linker groups and  
 CC non-IFN beta proteins, especially an immunoglobulin (Ig) protein. The  
 CC fusion protein is useful for inhibiting angiogenesis in a patient.  
 CC It may also be used to treat multiple sclerosis, fibrosis, inflammatory  
 CC and autoimmune diseases, cancers, hepatitis and viral infection  
 CC characterized by neovascularisation. The present sequence is  
 CC a human interferon-beta alanine substituted mutant H121A.  
 CC The mutant was analysed in antiviral assays to assess the effects  
 CC of mutating the histidines which chelate zinc in the crystal structure  
 CC dimer. The His mutants retained wild type activity suggesting that  
 CC zinc-mediated dimer formation is not important for IFN-beta activity.  
 CC Note: The present sequence is not shown in the specification but is  
 CC derived from wild type human IFN-beta sequence found in page 36  
 CC (AAV70871).  
 XX  
 SU Sequence 166 AA:  
 Query Match 96.0% Score 832, DB 21, Length 166;  
 Best Local Similarity 96.4% Pred. No. 2e-69; Indels 0; Gaps 0;  
 Matches 160; Conservative 1; Mismatches 5;  
 QY 1 MAAVALGACASSHFCQKIMQJHCELYGKEDKEMNTTPTPTKQDQPPKEMATITY 60  
 DB 1 MSYMLDCELFSSNFCQKIMQJHCELYGKEDKEMNTTPTPTKQDQPPKEMATITY 60  
 QY 61 EMLGNITAFIFKQSSSSIGWNETIVSNLANVYR;SHEKIVLEERY;EVEVETWMAWSSG 120  
 DB 61 EMLGNITAFIFKQSSSSIGWNETIVSNLANVYR;SHEKIVLEERY;EVEVETWMAWSSG 120  
 QY 121 HIKRYGRILDAFLKAKESHCAMTVVEVLLPNFPIINRITGVLRN 166  
 DB 121 HIKRYGRILDAFLKAKESHCAMTVVEVLLPNFPIINRITGVLRN 166  
 RESULT 8  
 AAV84962  
 ID AAV84962 standard; Protein: 166 AA.  
 AC AAV84962;  
 XX  
 DT 21-APR-2000 (first entry)  
 XX  
 DE Alanine mutant of human interferon beta 1a protein.  
 XX  
 KW Interferon beta 1a; IFN-beta-1a; polymer; polypeptide; glycol; tumour;  
 KW cancer; autoimmune condition; fibrosis; lupus; multiple sclerosis;  
 KW viral disease; angiogenic disease.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX

[illegible]

AC	AAV70884:	
XX		
XX	31-JUL-2000 (first entry)	
XX		
XX	Human interferon beta alanine substituted mutant Del.	
XX		
XX	Human: interferon-beta; IFN beta; immunoglobulin fusion protein; mutant alanine; anti-sclerotic; anti-inflammatory; immunosuppressive; cytostatic; antiviral; hepatocellular carcinoma; treatment; fibrosis; multiple sclerosis; inflammatory disease; autoimmune disease; cancer; hepatitis; viral infection; neovascularisation; IFN beta car Del loop.	
XX		
XX	Human sapiens:	
XX	Synthetic.	
XX		
XX	Key	Location/Qualifiers
XX	Domain	1..25
XX	Domain	/label = He-lix_A
XX	Domain	26..54
XX	Domain	/label = Ab_loop
XX	Domain	54..73
XX	Domain	/label = He-lix_B
XX	Domain	74..100
XX	Domain	/label = He-lix_C
XX	Domain	101..119
XX	Domain	/label = CT_loop
XX	Domain	120..134
XX	Domain	/label = He-lix_D
XX	Domain	135..140
XX	Misc-difference	/label = De_loop
XX	Misc-difference	136
XX	Misc-difference	/note = "W14 Y105 Y95 is substituted by A11"
XX	Misc-difference	137
XX	Domain	/note = "Wild type G10 is substituted by A11"
XX	Domain	141..166
XX	Domain	/label = He-lix_E
XX		
XX	W220022472 A2.	
XX		
XX	27-APR-2000.	
XX		
XX	15-OCT-1999:	99WO-0524200.
XX		
XX	16-OCT-1998:	98OS-0104491.
XX	16-FEB-1999:	99OS-0120217.
XX		
XX	(BIOJ ) BIOGEN INC.	
XX		
XX	Wildly A. Finkel, Jr. Pri-Kelmaier M. Hochman P.	
XX		
XX	WPI: 2000 339654/29.	
XX		
XX	Fusion proteins comprising interferon-beta-1a useful for inhibiting angiogenesis -	
XX	Example 1: Page -7: 82pp; English.	
XX		
XX	The patent discloses fusion proteins comprising glycosylated	
XX	antiferon-beta (1-15 beta), cysteine, cysteine, linker groups and	
XX	non-15n-beta proteins, especially an immunoglobulin (Ig) protein. The	
XX	fusion protein is useful for inhibiting angiogenesis in a patient.	
XX	It may also be used to treat multiple sclerosis, fibrosis, inflammatory	
XX	and autoimmune diseases, cancer, hepatitis and viral infection	
XX	characterised by neovascularisation. The present sequence is	
XX	a human interferon beta alanine substituted mutant DEL generated	
XX	by mutating residues in the DE loop of wild type sequence.	
XX	The Aa/Ser substituted mutants of 15n-beta having substitutions in	
XX	helices A, B, C, D or E, or loops AB, CD or DE were assessed for	
XX	receptor binding and functional activities e.g. antiviral and	
XX	antiproliferative activities. The DEL mutant displays both antiviral and	
XX	antiproliferative activities but its antiproliferative activity is lower	
XX	than antiviral activity and both antiviral and antiproliferative	
XX	activities are lower relative to receptor binding, compared to the	
XX		



CC wild-type sequence. The seq not be used to produce IFN-beta fusion  
 CC proteins. Note: The present sequence is not shown in the specification  
 CC but is derived from wild-type human IFN-beta sequence found in page 36  
 CC (AAV70871).

XX Sequence 166 AA:

Query Match 95.7% Score 830: Ps 21: Length 166:

Host Local Similarity 95.8%: Pred. No. 4, 1e-69:

Matches 159: Conservative 1: Mismatches 6: Indels 0: Gaps 0:

CC 1 MAAVALGALGASSNFCQCKLWLNCRLECYCLKDPNPTIPETIKQLAQPKEDALITY 60

CC 1 MSYLLGFLQPSNRCYQKTIWLNRIYCYCKPMNPDPETIKQLAQPKEDALITY 60

CC 61 EMUNIFALFKQSSSTGMMETIVENLAWYHQINHLKTVLEPKLECECFPGALMSL 120

CC 61 EMUNIFALFKQSSSTGMMETIVENLAWYHQINHLKTVLEPKLECECFPGALMSL 120

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC to an interferon beta polypeptide, the amino acid sequence of which  
 CC differs from wild-type human interferon beta in at least one introduced  
 CC and at least one removed amino acid residue comprising an attachment  
 CC group for the first non-polypeptide group; the invention also concerns  
 CC reducing the immunogenicity and/or increasing functional in vivo  
 CC half-life and/or serum half-life of an interferon beta polypeptide  
 CC comprising introducing an amino acid residue constituting an attachment  
 CC group for a first non-polypeptide group into a position exposed at the  
 CC surface of the protein that does not contain such a group and removing  
 CC an amino acid residue constituting an attachment group for a first  
 CC non-polypeptide group and subjecting the modified peptide to a conjugation  
 CC with the non-polypeptide group. The conjugate and a cell culture  
 CC expressing the modified polypeptides are useful in the treatment of  
 CC disease, especially multiple sclerosis, and for treating mammals having  
 CC circulating antibodies against interferon beta in or to the DNA encoding the  
 CC mutated proteins may be used for gene therapy. The DNA and proteins can  
 CC also be used to treat viral infections (e.g. viral hepatitis), cancer  
 CC (e.g. breast cancer), inflammation, Crohn's disease, acute myeloid  
 CC leukemia, Hodgkin's disease and ulcerative colitis and for  
 CC immunomodulation.

CC Note: The present sequence is not shown in the specification but is  
 CC derived from the human interferon beta sequence given in AAV70871.

CC Sequence 166 AA:

Query Match 95.7% Score 840: Ps 22: Length 166:

Host Local Similarity 95.8%: Pred. No. 4, 1e-69:

Matches 159: Conservative 1: Mismatches 6: Indels 0: Gaps 0:

CC 1 MAAVALGALGASSNFCQCKLWLNCRLECYCLKDPNPTIPETIKQLAQPKEDALITY 60

CC 1 MSYLLGFLQPSNRCYQKTIWLNRIYCYCKPMNPDPETIKQLAQPKEDALITY 60

CC 61 EMUNIFALFKQSSSTGMMETIVENLAWYHQINHLKTVLEPKLECECFPGALMSL 120

CC 61 EMUNIFALFKQSSSTGMMETIVENLAWYHQINHLKTVLEPKLECECFPGALMSL 120

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

CC 121 HFFVYAFILHTKAKESHCATVTPVPTLPPFPINPTGYLPN 166

PS Claim 11: Page - : 108pp: English.

PT A conjugate exhibiting interferon beta activity useful for treating

PT multiple sclerosis comprises a non-polypeptide group covalently

PT attached to an interferon beta polypeptide -

XX

XX

XX

XX

XX

XX

XX

PS Mark DF, Creasey AA:

PT WPI: 1993-723186/40.

PT N-PDB: AAV70871.

PT

PT

PT

PT



CC diseases, or immunosuppressed or immunodeficient conditions.

XX Sequence 166 AA;

Query Match 95.6%; Score 829; DB 6; Length 166;  
Best Local Similarity 95.8%; Prod No. 3 9a-69;  
Matches 159; Conservative 1; Mismatches 6; Indels 0; Gaps 0;

DB 1 MAYAALGAGASNPQCKLMQNLKLEVCIKCHNNIPPEFKIQGQKEDALITY 60  
1 MSNLDGFQKSSNPQCKLMQNLKLEVCIKCHNNIPPEFKIQGQKEDALITY 60  
YY 61 EMQNFPAIFQDSSSTGNETIENLLANVYHQTINLKTVEERLEKFTGALMSSL 120  
61 EMQNFPAIFQDSSSTGNETIENLLANVYHQTINLKTVEERLEKFTGALMSSL 120  
DB 61 EMQNFPAIFQDSSSTGNETIENLLANVYHQTINLKTVEERLEKFTGALMSSL 120  
YY 121 HLEKYYGRTIHTFAEYSHZAMTIVPVETIPNFTPIPTGYLNN 160  
121 HLEKYYGRTIHTFAEYSHZAMTIVPVETIPNFTPIPTGYLNN 160  
DB 121 HLEKYYGRTIHTFAEYSHZAMTIVPVETIPNFTPIPTGYLNN 160

RESULT 14

AAFP61071  
ID AAFP61071 standard; protein; 166 AA.

XX AAFP61071;

XX 04-OCT-2002 (updated)

DI 28-MAY-1991 (first entry)

XX oxidation resistant mutain of Interferon-Beta.

XX IL-2; IFN-Beta; colony stimulating factor; CSF 1; tPA; hGF.

XX Homo sapiens.

XX Key Location/Qualifiers

PH Misc-difference 1..6 "May be N-terminal truncated or absent"

FT Misc-difference 17 "May be any conservative AA"

FT Misc-difference 36 "May be any conservative AA"

FT Misc-difference 62 "May be any conservative AA"

FT Misc-difference 117 "May be any conservative AA"

XX A08652451-A.

XX 41-JUL-1986.

XX 17-JAN-1986; 86AU-0052451.

XX 17-DEC-1985; 850S-0810656.

XX 18-JAN-1985; 850S-0692596.

XX 05-NOV-1986; 86AU-00644846.

XX 05-AUG-1986; 860S-0893186.

XX (2ETN ) CETUS CORP

XX Koths KE. Halenbeck RF, Innis MA;

XX WPI: 1986-239075/37.

XX oxidn. resistant mutain(s). Prep'd. by replacing

XX oxidn.-susceptible methionine with conservative aminoacid

XX Modified peptide has residues susceptible to alanine T and

XX peroxide-oxidation replaced with conservative AA. Mutain is thus

XX resistant to oxidation. Other proteins which may be similarly

CC rendered resistant include tissue plasminogen activator, colony

CC stimulating factor and human growth factor.

CC (Updated on 03-OCT-2002 to add missing US field.)

XX

XX Sequence 166 AA;

Query Match 95.6%; Score 829; DB 7; Length 166;  
Best Local Similarity 95.8%; Prod. No. 3 9a-69;  
Matches 159; Conservative 1; Mismatches 6; Indels 0; Gaps 0;

DB 1 MAYAALGAGASNPQCKLMQNLKLEVCIKCHNNIPPEFKIQGQKEDALITY 60  
1 MSNLDGFQKSSNPQCKLMQNLKLEVCIKCHNNIPPEFKIQGQKEDALITY 60  
YY 61 EMQNFPAIFQDSSSTGNETIENLLANVYHQTINLKTVEERLEKFTGALMSSL 120  
61 EMQNFPAIFQDSSSTGNETIENLLANVYHQTINLKTVEERLEKFTGALMSSL 120  
DB 61 EMQNFPAIFQDSSSTGNETIENLLANVYHQTINLKTVEERLEKFTGALMSSL 120  
YY 121 HLEKYYGRTIHTFAEYSHZAMTIVPVETIPNFTPIPTGYLNN 160  
121 HLEKYYGRTIHTFAEYSHZAMTIVPVETIPNFTPIPTGYLNN 160  
DB 121 HLEKYYGRTIHTFAEYSHZAMTIVPVETIPNFTPIPTGYLNN 160

RESULT 15

AAFP70296  
ID AAFP70296 standard; protein; 166 AA.

XX AAFP70296;

XX 07-JUN-1991 (first entry)

XX Sequence of Interferon-beta.

XX Antiviral; antiproliferative agent.

XX Homo sapiens.

XX EP237019-A.

XX 16-SEP-1987.

XX 10-MAR-1987; 87EP-0104406.

XX 14-MAR-1986; 86JP-0054650.

XX 26-DEC-1986; 86JP-0408694.

XX (TOWA ) TOWAY IND INC.

XX Tanaka T, Kawano G, Sawada K.

XX WPI: 1987-258300/37.

XX Conjugates of Interferon(s)-beta and gamma : useful as antivirals

XX and anti-cell proliferatives with broad spectrum of activity

XX and obt'd. economically by recombinant DNA procedures

XX Claim 7; p35; 52pp; English.

XX The inventors claim an interferon conjugate wherein a C-terminal of

XX the region exhibiting biological activities of interferon-beta has

XX been linked to an N-terminal of the region exhibiting biological

XX activities of interferon gamma. The antiviral activity of the

XX conjugate was tested using fibroblast virus system according

XX to the CPE 50 inhibition method. Antiviral activity ranged from

XX 200 U/ml to 18500 U/ml.

XX Sequence 166 AA;

Query Match 95.6%; Score 829; DB 8; Length 166;  
Best Local Similarity 95.8%; Prod. No. 3 9a-69;  
Matches 159; Conservative 1; Mismatches 6; Indels 0; Gaps 0;

DB 1 MAYAALGAGASNPQCKLMQNLKLEVCIKCHNNIPPEFKIQGQKEDALITY 60  
1 MSNLDGFQKSSNPQCKLMQNLKLEVCIKCHNNIPPEFKIQGQKEDALITY 60  
YY 61 EMQNFPAIFQDSSSTGNETIENLLANVYHQTINLKTVEERLEKFTGALMSSL 120  
61 EMQNFPAIFQDSSSTGNETIENLLANVYHQTINLKTVEERLEKFTGALMSSL 120  
DB 61 EMQNFPAIFQDSSSTGNETIENLLANVYHQTINLKTVEERLEKFTGALMSSL 120  
YY 121 HLEKYYGRTIHTFAEYSHZAMTIVPVETIPNFTPIPTGYLNN 160  
121 HLEKYYGRTIHTFAEYSHZAMTIVPVETIPNFTPIPTGYLNN 160  
DB 121 HLEKYYGRTIHTFAEYSHZAMTIVPVETIPNFTPIPTGYLNN 160



Gender version 5.1.4\_p5\_457H  
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OM protein - protein search, using sw model

Run on: May 6, 2003, 05:46:03 : Search time 8 Seconds  
(without alignments)  
860 634 Million cell updates/sec

Title: US-09-832-658A-25

Sequence: 1 MSYNIIGELPPSSNIQIQRI . RVFII.RNEYRINRLTGYLRN 166

Scoring table: BLOSUM62  
gapEF 10.0, gapEX1 0.0

Searched: 112892 seqs, 41476328 residues

Total number of hits satisfying chosen parameters. 112892

Minimum TBS seq length: 0

Maximum DR seq length: 20000000000

Post-processing: Minimum Match 08  
Maximum Match 100%

Listing first 45 summaries

Database : SwissProt\_40:\*

ried. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result	Score	Quarry	Match	Length	DB	ID	Description
1	859	98.5		187	1	INR_HUMAN	P01574 homo sapien
2	511.5	58.7		186	1	INR_PELLA	G26210 fells all
3	482.5	55.3		186	1	INR2_BOVIN	P01576 bos taurus
4	476.5	54.6		186	1	INR2_HORSE	P05012 equus caball
5	448.5	51.4		186	1	INB3_BOVIN	P01577 bos taurus
6	440.5	49.4		186	1	INB1_BOVIN	P01578 bos taurus
7	439.5	48.9		182	1	INR_MOUSE	P01575 mus muscul
8	433.5	48.2		185	1	INR_RAT	P70459 rattus norv
9	291	33.4		195	1	INR2_HORSE	P05002 equus caball
10	270	31.0		195	1	INR1_HORSE	P05001 equus caball
11	263.5	30.2		195	1	IN1_SHEEP	G46631 cervus elaph
12	262	30.0		184	1	INR1_HORSE	P05004 equus caball
13	262	30.0		184	1	INR3_HORSE	P05005 equus caball
14	262	30.0		184	1	INR4_HORSE	P05004 equus caball
15	256	29.6		195	1	INR2_HORSE	P05004 equus caball
16	257	29.5		195	1	INR1_HUMAN	P05000 homo sapien
17	255.5	29.3		195	1	INR1_BOVIN	P07352 bos taurus
18	253.5	29.1		172	1	INR2_BOVIN	P56830 bos taurus
19	251.5	29.0		189	1	INR4_HUMAN	P05015 homo sapien
20	251.5	28.8		188	1	INR2_HUMAN	P01563 homo sapien
21	251.5	28.8		188	1	INR1_HUMAN	P56828 ovis aries
22	251.5	28.8		195	1	INR1_SHEEP	P56829 ovis aries
23	249.5	28.6		195	1	INR1_SHEEP	G22429 ovis aries
24	247.5	28.5		186	1	INR1_SHEEP	G28595 ovis aries
25	247.5	28.4		189	1	INR1_BOVIN	P01569 homo sapien
26	246.5	28.3		195	1	INR1_BOVIN	P56831 bos taurus
27	246.5	28.3		195	1	INR1_SHEEP	P15596 bos taurus
28	245	28.1		195	1	INR1_HUMAN	G23584 ovis aries
29	245	27.9		195	1	INR1_HUMAN	P37290 homo sapien
30	244.5	27.9		195	1	INR1_SHEEP	P56832 ovis aries
31	244.5	27.9		195	1	INR1_SHEEP	G08071 ovis aries
32	244.5	27.9		195	1	INR1_SHEEP	G06070 ovis aries
33	244.5	27.9		195	1	INR1_SHEEP	P28169 ovis aries

RESULT 1		ALTERNATES	
ID	INB_HUMAN	STANDARD:	PRT: 187 AA.
AC	PN1574:		
DT	21-JUL-1986 (rel. 01, last update)		
DT	21-JUL-1986 (rel. 01, last update)		
DT	15-JUL-2002 (rel. 41, last update)		
LB	Interferon beta precursor (119 bps) (fibroblast interferon)		
GN	IFNB1 OR IFNB OR IFB.		
OS	Homo sapiens (Human).		
CC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;		
CC	Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.		
OX	NCBI_TaxID=9606;		
RN	[1]		
RP	SEQUENCE FROM N.A.		
RX	MEDLINE=81198952; PubMed=6164984;		
RA	Lajano R.M., Adelman J., Frake A.E., Horok C.M., Gross M.,		
RA	Najarian R., Goeddel D.V.;		
RT	"Human fibroblast interferon gene lacks introns.";		
RL	Nucleic Acids Res. 9:1045-1052(1981).		
RN	[2]		
RP	SEQUENCE FROM N.A.		
RA	Ohno S., Taniguchi T.;		
RT	"Structure of a chromosomal gene for human interferon beta.";		
P1	Proc Natl Acad Sci U.S.A. 78:5305-5309(1981).		
RN	[3]		
RP	SEQUENCE FROM N.A.		
RX	MEDLINE=81005095; PubMed=6157601;		
RA	Taniguchi T., Ohno S., Fujii-Kuriyama Y., Muramatsu M.;		
RT	"The nucleotide sequence of human fibroblast interferon cDNA.";		
RL	Gene 10:11-15(1980).		
RN	[4]		
RP	SEQUENCE FROM N.A.		
RX	MEDLINE=80254542; PubMed=6157094;		
RA	Derynck R., Conton J., Inouetq E., Volkhardt G., Leventhal J.;		
RA	Devos R., Fiers W.;		
RT	"Isolation and structure of a human fibroblast interferon gene.";		
RL	Nature 285:542-547(1980).		
RN	[5]		
RP	SEQUENCE FROM N.A.		
RX	MEDLINE=81051720; PubMed=6159580;		
RA	Houghton M., Eaton M.A.W., Stewart A.G., Smith J.C., Pool S.M.;		
RA	Cartlin R.H., Lewis H.M., Latic T.F., Emile J.S., Carey N.H.;		
RA	Porter A.G.;		
RT	"The complete amino acid sequence of human fibroblast interferon as deduced using synthetic oligodeoxynucleotide primers of reverse transcriptase.";		
RL	Nucleic Acids Res. 9:2882-2894(1980).		
RN	[6]		
RP	SEQUENCE FROM N.A.		
PX	MEDLINE=81053752; PubMed=6154584;		
RA	Goeddel D.V., Shepard H.M., Vetterton E., Leung R., Yew R., Stoma A.;		
RA	Pestka S.;		
RT	"Synthesis of human fibroblast interferon by E. coli.";		
RL	Nucleic Acids Res. 8:4057-4074(1980).		
RN	[7]		

SEQUENCE FROM N.A.  
 MEDLINE 8604565; PubMed 2414876;  
 May 1991; Scheibel P.R.;  
 "On the relationship between human interferon alpha 1 and beta 1  
 genes."  
 J. Interferon Res. 5:521-526(1985).  
 SEQUENCE of 1.68 FROM N.A.  
 MEDLINE 8160864; PubMed 6195972;  
 Houghton M., Stewart A.G., Good S.M., Ponnepalli S., Barton M.A.W.,  
 Smith J.C., Patel J.L., Lewis H.M., Porter A.G., Birch J.R.,  
 Cartwright J., Carey N.H.;  
 "The amino terminal sequence of human fibroblast interferon as  
 deduced from reverse transcripts obtained using synthetic  
 oligonucleotide primers."  
 Nucleic Acids Res. 8:1914-1916(1980).  
 DISULFIDE BOND.  
 MEDLINE 81120083; PubMed 6162107;  
 Wetzel R.;  
 "Assignment of the disulphide bonds of leukocyte interferon."  
 Nature 289:606-607(1981).  
 SEQUENCE of 71.04 FROM N.A. (VARIANT CLONE pF526).  
 MEDLINE 8200083; PubMed 6171745;  
 Shepard H.M., Leonard J., Stebbing N., Goodell D.V.;  
 "A stable amino acid change in IFN beta abolishes its antiviral  
 activity."  
 Nature 294:563-565(1981).  
 X-RAY CRYSTALLOGRAPHY (2.72 ANGSTROMS).  
 MEDLINE 96004481; PubMed 942420;  
 Karpusas M., Noll M., Bouton C.R., Meyer W., Lipscomb W.N., Goetz S.;  
 "The crystal structure of human interferon beta at 2.7-A resolution."  
 Proc. Natl. Acad. Sci. U.S.A. 94:11843-11848(1997).  
 FUNCTION: HAS ANTIVIRAL, ANTIBACTERIAL AND ANTICANCER ACTIVITIES.  
 SUBUNIT: MONOMER.  
 SUBCELLULAR LOCATION: Secreted.  
 PHARMACOLOGICAL: Available under the names Avonex (Biogen),  
 Betasero (Boehr) and Rebif (Serono). Used in the treatment of  
 multiple sclerosis (MS). Betasero is a slightly modified form  
 of IFN $\beta$  with two residue substitutions.  
 SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA  
 FAMILY.  
 TAYLOR: NAME AGENCY: Note clinical information on Avonex;  
 WWW "http://www.bion-sci.com"  
 TAYLOR: NAME AGENCY: Note clinical information on Betasero;  
 WWW "http://www.bion-sci.com"  
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4D-structure.  
 FT SIGNAL 1 21  
 FT CHAIN 22 187 INTERFERON BETA.  
 FT CARBOHYD 101 101 N-LINKED (GLYCOSYLATION).  
 FT DISULFID 52 162  
 FT VARIANT 162 162  
 FT  
 FT  
 SEQUENCE 197 AA; 22294 MW; 0801910877240390 (RC664);  
 Query Match 98.5%; Score 859; DB 1; Length 187;  
 Best Local Similarity 98.8%; Pred. No. 4; Gap 65;  
 Matches 164; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
 QY 1 MSYRLDLPQSSNPGYQGLWLNRLRYLLEKQNSNIPREKGLQYKREAAALIV 63  
 DB 22 MSYRLDLPQSSNPGYQGLWLNRLRYLLEKQNSNIPREKGLQYKREAAALIV 63  
 QY 61 FMGNFATFQSSSFWNNLIVNLCANVHGNGNRYVGRKSPKQPMWST 120  
 DB 82 FMGNFATFQSSSFWNNLIVNLCANVHGNGNRYVGRKSPKQPMWST 120  
 QY 121 HLEKRYERILHYLAKKYSNCAWTVKVELLHYRINRQYKRN 166  
 DB 142 HLEKRYERILHYLAKKYSNCAWTVKVELLHYRINRQYKRN 167  
 RESULT 2  
 INB\_FELCA STANDARD; PRO; 186 AA.  
 ID INB\_FELCA  
 AC Q9N210;  
 DI 16-OCT-2001 (rel. 40; Created)  
 DI 16-OCT-2001 (rel. 40; Last sequence update)  
 DI 15-JUN-2002 (rel. 41; Last annotation update)  
 GN Interferon beta precursor (IFN-beta).  
 OS Felis silvestris catus (Cat).  
 OC Eukaryota; Metazoa; Chordata; Carnivora; Feline; Felidae; Feliformia;  
 OC Mammalia; Eutheria; Carnivora; Feliformia; Felidae; Felis  
 OX NBL\_TaxID=9685;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 FA Marukami Y., Kobayashi M., Kishi M.;  
 RT "Genetic structure of feline interferon beta."  
 RL Submitted (GenBank) to the GenBank database.  
 CC 1- FUNCTION: HAS ANTIVIRAL, ANTIBACTERIAL AND ANTICANCER ACTIVITIES  
 (BY SIMILARITY).  
 CC 1- SUBUNIT: MONOMER (BY SIMILARITY).  
 CC 1- SUBCELLULAR LOCATION: Secreted.  
 CC 1- SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA  
 FAMILY.  
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CC or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).

CC -----

CC EMBL: M1541; AA030952.1; -

CC DR PIR: D24912; IYH0A4.

CC DR HSSP: P01563; 2HIE.

CC DR InterPro: IP000471; Interferon\_alpha

CC DR Pfam: PF00143; Interferon\_1

CC DR PRINTS: PR00266; INTERFERONAB.

CC DR ProDom: PD000560; Interferon\_abd: 1

CC DR SMART: SM00076; Irbdd: 1

CC DR PROSITE: PS00252; INTERFERON\_A\_B\_D: 1

CC KW Cytochrome Antiviral; Multigene family; Signal.

CC FT SIGNAL 1 23

CC FT CHAIN 24 184 INTERFERON ALPHA-4

CC FT DISULFID 24 122 BY SIMILARITY.

CC FT DISULFID 52 162 BY SIMILARITY.

CC SQ SEQUENCE 184 AA; 20860 MW; 100874611068BC CRC64;

CC -----

CC Query Match: 30.6%; Score 262; DB 1; Length 184;

CC Best Local Similarity 36.7%; Pred. No. 36-15;

CC Matches 55; Conservative 29; Mismatches 52; Indels 14; Gaps 1;

CC

QY 5 LIGFGSSNFGQKILWENFSELEYLQNMNLIPEELKOLQUPKELALIIYEMQ 64

DB 40 LIGFGSSNFGQKILWENFSELEYLQNMNLIPEELKOLQUPKELALIIYEMQ 64

QY 40 LIGFGSSNFGQKILWENFSELEYLQNMNLIPEELKOLQUPKELALIIYEMQ 64

DB 40 LIGFGSSNFGQKILWENFSELEYLQNMNLIPEELKOLQUPKELALIIYEMQ 64

QY 65 NFAIFRQSSSTQWNETIVENLANYHQLNKLIVLEKLEKEDFTKGLAMSSLHKR 124

DB 86 QIFHLESTQSSAAMDSESLNLTIGVQLIFLPAQLSQGVVEITPLMNEDSLAVRR 145

QY 125 YVGRILHYLKAKEYSHCAWTVVPEILRN 154

DB 146 YVGRILHYLKAKEYSHCAWTVVPEILRN 175

CC

RESULT 15

CC

CC INA2\_HORSE STANDARD: PRT; 184 AA.

CC AC P05004;

CC DT 13-AUG-1987 (Ref. 05, Created)

CC DT 13-AUG-1987 (Ref. 05, Last sequence update)

CC DT 15-JUN-2002 (Ref. 41, Last annotation update)

CC DE Interferon alpha-2 precursor.

CC OS Equus caballus (Horse).

CC EC Eukaryotic Metazoa; Chordata; Vertebrata; Euarchontomi;

CC NC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.

CC NX NCBI\_taxid=9796;

CC RN 111

CC RP SEQUENCE FROM N.A.

CC RA MEDLINE: 87053170; PubMed: 3022999;

CC RA Himmelf A., Hauptmann R., Adolf G.R., Swelly P.;

CC RT Molecular cloning and expression in Escherichia coli of equine type

CC RT Interferons "1".

CC RL DNA 5145-356(1986).

CC CC -1- FUNCTION: PRODUCED BY MACROPHAGES, IFN-ALPHA HAVE ANTIVIRAL

CC CC ACTIVITIES. INTERFERON STIMULATES THE PRODUCTION OF TWO ENZYMES:

CC CC A PROTEIN KINASE AND AN OLIGODENYLATE SYNTHETASE.

CC CC -1- SUBCELLULAR LOCATION: Secreted.

CC CC -1- SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA

CC CC FAMILY.

CC

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CC or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).

CC -----

CC EMBL: M1541; AA030950.1; -

CC DR PIR: A15943; CAA01258.1; -

CC DR PIR: D24912; IYH0A2.

CC DR HSSP: P01563; 2HIE.

CC DR InterPro: IP000471; Interferon\_abd.

CC DR Pfam: PF00143; Interferon\_1

CC DR PRINTS: PR00266; INTERFERONAB.

CC DR ProDom: PD000560; Interferon\_abd: 1

CC DR SMART: SM00076; Irbdd: 1

CC DR PROSITE: PS00252; INTERFERON\_A\_B\_D: 1

CC KW Cytochrome Antiviral; Multigene family; Signal.

CC FT SIGNAL 1 23

CC FT CHAIN 24 184 INTERFERON ALPHA-2

CC FT DISULFID 24 122 BY SIMILARITY.

CC FT DISULFID 52 162 BY SIMILARITY.

CC SQ SEQUENCE 184 AA; 20877 MW; 101987081068BC CRC64;

CC -----

CC Query Match: 29.6%; Score 258; DB 1; Length 184;

CC Best Local Similarity 36.7%; Pred. No. 6-15;

CC Matches 55; Conservative 28; Mismatches 53; Indels 14; Gaps 1;

CC

QY 5 LIGFGSSNFGQKILWENFSELEYLQNMNLIPEELKOLQUPKELALIIYEMQ 64

DB 40 LIGFGSSNFGQKILWENFSELEYLQNMNLIPEELKOLQUPKELALIIYEMQ 64

QY 40 LIGFGSSNFGQKILWENFSELEYLQNMNLIPEELKOLQUPKELALIIYEMQ 64

DB 40 LIGFGSSNFGQKILWENFSELEYLQNMNLIPEELKOLQUPKELALIIYEMQ 64

QY 65 NFAIFRQSSSTQWNETIVENLANYHQLNKLIVLEKLEKEDFTKGLAMSSLHKR 124

DB 86 QIFHLESTQSSAAMDSESLNLTIGVQLIFLPAQLSQGVVEITPLMNEDSLAVRR 145

QY 125 YVGRILHYLKAKEYSHCAWTVVPEILRN 154

DB 146 YVGRILHYLKAKEYSHCAWTVVPEILRN 175

CC

Search completed: May 6, 2003, 09:50:46

Job time: 9 secs



GenStore version 5.1.4-P5.4576  
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OM protein - protein search, using sw model

Run on: May 6, 2003, 09:50:43 ; Search time 27 Seconds  
(without alignments)  
591,049 Million cell updates/sec

Title: US-09-832-658a-25  
Perfect Score: 872  
Sequence: 1 MGYHLL3FLG658H22.K1 PVTTPPTPTVPIVETIYIPN 166

Scoring Table: BL/OSUM62  
Gapop 10.0, Gapext 0.5

Searched: 283224 seqs, 96134422 residues

Total number of hits satisfying chosen parameters: 233224

Minimum DB seq length: 6  
Maximum DB seq length: 20000000

Post-processing: Minimum Match 98  
Maximum Match 100%

Listing first 45 summaries

Database: PIR\_73:\*\*\*  
1: PIR1:\*\*\*  
2: PIR2:\*\*\*  
3: PIR3:\*\*\*  
4: PIR4:\*\*\*

Prod. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match Length	DB ID	Description
1	859	98.5	187 1	IVH0B1 Interferon beta-1
2	482.5	55.3	186 1	IVH0B2 Interferon beta-2
3	476.5	54.6	186 1	IVH0B3 Interferon beta-3
4	448.5	51.4	186 1	IVH0B3 Interferon beta-3
5	440.5	49.4	186 1	IVH0B1 Interferon beta-1
6	339.5	38.9	182 1	IVH0B1 Interferon beta-1
7	334.5	38.2	184 2	J55424 Interferon beta-1
8	291	33.4	195 1	IVH0B2 Interferon alpha-1
9	270	31.0	195 1	IVH0B1 Interferon alpha-1
10	262	30.9	184 1	IVH0B4 Interferon alpha-1
11	262	30.0	184 1	IVH0B3 Interferon alpha-1
12	262	30.0	184 1	IVH0B1 Interferon alpha-1
13	258	29.5	184 1	IVH0A2 Interferon omega-1
14	257	29.5	195 1	IVH0B1 Interferon alpha-1
15	256.5	29.3	195 1	IVH0B1 Interferon alpha-1
16	253	29.0	195 2	IVH0B1 Interferon alpha-1
17	253	29.0	195 2	IVH0B1 Interferon alpha-1
18	253	29.0	195 2	IVH0B1 Interferon alpha-1
19	252.5	29.0	165 2	IVH0B1 Interferon alpha-1
20	252.5	29.0	189 2	IVH0B1 Interferon alpha-1
21	252.5	29.0	189 2	IVH0B1 Interferon alpha-1
22	251.5	28.8	188 1	IVH0A2 Interferon omega-1
23	251	28.8	172 2	IVH0B1 Interferon alpha-1
24	251	28.8	195 2	IVH0B1 Interferon alpha-1
25	251	28.8	195 2	IVH0B1 Interferon alpha-1
26	249.5	28.5	195 2	IVH0B1 Interferon alpha-1
27	248.5	28.5	195 2	IVH0B1 Interferon alpha-1
28	247.5	28.4	189 1	IVH0A7 Interferon alpha-5
29	245	28.1	195 2	IVH0B1 Interferon alpha-1

## ALIGNMENTS

## RESULT 1

IVH0B1 Interferon beta-1 precursor [validated] - human

C:Species: Homo sapiens (man)

C:Date: 18-Aug-1982 #sequence: revision 18-Aug-1982 #text: change 08 Dec 2000

C:Accession: A93721, A93867, A91468, A93225, A93706, A93699, S04479, I56315, R:Lawn, R.M.; Adelman, J.; Franke, A.E.; Hunk, C.M.; Gross, M.; Najjarian, R.; Goedde

Nucleic Acids Res. 9, 1045-1052, 1981

A:Title: Human fibroblast interferon gene: Jacks introns.

A:Reference number: A93721; MIM:81198952; PMID:6164984

A:Accession: A93721

A:Molecule type: DNA

A:Residues: 1-187 <I>A>

A:Cross-references: GB:V00535; NID:412639; P1DN:CAA2796.1; P1D:432640

R:Lawn, R.M.; Adelman, J.; Franke, A.E.; Hunk, C.M.; Gross, M.; Najjarian, R.; Goedde

Proc. Natl. Acad. Sci. U.S.A. 78, 5405-5409, 1981

A:Title: Structure of a chromosomal gene for human interferon beta.

A:Reference number: A93887

A:Accession: A93887

A:Molecule type: DNA

A:Residues: 1-187 <I>A>

R:Lawn, R.M.; Adelman, J.; Franke, A.E.; Hunk, C.M.; Gross, M.; Najjarian, R.; Goedde

Proc. Natl. Acad. Sci. U.S.A. 78, 5405-5409, 1981

A:Title: The nucleotide sequence of human fibroblast interferon cDNA.

A:Reference number: A91468; MIM:8105095; PMID:6157601

A:Accession: A91468

A:Molecule type: mRNA

A:Residues: 1-187 <I>A>

A:Cross-references: GB:V00546; NID:412735; P1DN:CAA2796.1; P1D:432736

R:Lawn, R.M.; Adelman, J.; Franke, A.E.; Hunk, C.M.; Gross, M.; Najjarian, R.; Goedde

Nature 285, 542-547, 1980

A:Title: Isolation and structure of a human fibroblast interferon gene.

A:Reference number: A93225; MIM:81054542; PMID:6157094

A:Accession: A93225

A:Molecule type: DNA

A:Residues: 1-187 <I>A>

A:Cross-references: GB:V00546; NID:412735; P1DN:CAA2796.1; P1D:432736

R:Lawn, R.M.; Adelman, J.; Franke, A.E.; Hunk, C.M.; Gross, M.; Najjarian, R.; Goedde

Nucleic Acids Res. 8, 2885-2894, 1980

A:Title: The complete amino acid sequence of human fibroblast interferon as deduced from

A:Reference number: A93706; MIM:81053720; PMID:6159580

A:Accession: A93706

A:Molecule type: mRNA

A:Residues: 1-187 <I>A>

A:Cross-references: GB:V00546; NID:412735; P1DN:CAA2796.1; P1D:432736

R:Lawn, R.M.; Adelman, J.; Franke, A.E.; Hunk, C.M.; Gross, M.; Najjarian, R.; Goedde

Nucleic Acids Res. 8, 1913-1931, 1980

A:Title: The amino-terminal sequence of human fibroblast interferon as deduced from

A:Reference number: A93700; MIM:81054854; PMID:6159597

A:Accession: A93700

A:Molecule type: mRNA

A:Residues: 1-187 <I>A>









Query Match 30.0% Score 252 DB 1 Length 184  
 Best Local Similarity 36.7% Pred. No. 136 14  
 Matches 55: Conservative 29: Mismatches 52: Indels 14: Gaps 1:

QY 5 TTTGPPSSPPGAYLWLNLEFYLRKNNPFIPEIKOLOQPEQNALITYELQ 64  
 DB 40 LIAQNRRIISPS-----CTKRNDPFGPDEVDGNGFRKDAISAVHEITQ 85  
 QY 65 NITAFPPDSSSTNNETIVENILANVHUNHKTIVPEKEDPTGALMSGLIKR 124  
 DB 86 QTFHFTSLSSAAMPESTFQIYVYQATTEIFACISGVGVETPLMNPDSILAVR 145  
 QY 125 YGRIHLHLAKESYSGCAWTVVEILRNK 154  
 DB 146 YFORIALYIQRKYSKPCAMELVRAELMSK 175

## RESULT 12

IWH0A1

Interferon alpha 1 precursor horse

N Alternate names: EGFEN-alpha-1; type 1 interferon

C Species: Equus caballus (domestic horse)

C Date: 28 Dec 1987 #sequence\_revision 28 Dec 1987 #text\_change 18 Jun 1999

C Accession: A24912

R Himmler, A Hauptmann, R Adolf, G R Sweetly, P

DNA 5, 345-356, 1986

A Title: Molecular cloning and expression in Escherichia coli of equine type 1 interferon

A Reference number: A09456, MIMD 87059170, PMID 3022998

A Accession: A24912

A Molecule type: DNA

A Residues: 119 71414

A Cross-references: DB X02610, NID:q16422, EMBL AAA39551.1, F0136227

C Superfamily: Interferon alpha

C Keywords: antiviral

F013627

F013627

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1b 22 MSYNLHGFQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 81
27 61 EMLGNFAIFPGQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 120
3b 82 EMLGNFAIFPGQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 141
27 121 ELKRYVGLHYLAKRYSNFWMTIVYVELLNRYKINRGLGYRN 166
3b 142 ELKRYVGLHYLAKRYSNFWMTIVYVELLNRYKINRGLGYRN 187

RESULT 11
Query Match 98.5% Score 859; DB 6; Length 187;
Best local similarity 98.8% Pred. No. 2,90-85;
Matches 164; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

27 1 MSYNLHGFQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 80
3b 22 MSYNLHGFQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 81
27 61 EMLGNFAIFPGQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 120
3b 82 EMLGNFAIFPGQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 141
27 121 ELKRYVGLHYLAKRYSNFWMTIVYVELLNRYKINRGLGYRN 166
3b 142 ELKRYVGLHYLAKRYSNFWMTIVYVELLNRYKINRGLGYRN 187

RESULT 10
Query Match 98.0% Score 859; DB 6; Length 187;
Best local similarity 98.8% Pred. No. 2,90-85;
Matches 164; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

1b 22 MSYNLHGFQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 81
27 61 EMLGNFAIFPGQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 120
3b 82 EMLGNFAIFPGQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 141
27 121 ELKRYVGLHYLAKRYSNFWMTIVYVELLNRYKINRGLGYRN 166
3b 142 ELKRYVGLHYLAKRYSNFWMTIVYVELLNRYKINRGLGYRN 187

OTHER INFORMATION: Residues 1 29, signal sequence; 40-249, human IFNA2; 240-249,
other information; 250-415, human IFNA2 linked by
US-09-215-212-14
Query Match 98.5% Score 859; DB 4; Length 415;
Best local similarity 98.8% Pred. No. 8,60-85;
Matches 164; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

1b 250 MSYNLHGFQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 409
27 61 EMLGNFAIFPGQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 120
3b 310 EMLGNFAIFPGQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 409
27 121 ELKRYVGLHYLAKRYSNFWMTIVYVELLNRYKINRGLGYRN 166
3b 470 ELKRYVGLHYLAKRYSNFWMTIVYVELLNRYKINRGLGYRN 415

RESULT 11
Query Match 98.4% Score 857; DB 2; Length 166;
Best local similarity 98.2% Pred. No. 4,10-85;
Matches 163; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

1b 61 EMLGNFAIFPGQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 60
27 1 MSYNLHGFQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 80
3b 61 EMLGNFAIFPGQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 120

```

```

OTHER INFORMATION: Residues 1 29, signal sequence; 40-249, human IFNA2; 240-249,
other information; 250-415, human IFNA2 linked by
US-09-215-212-14
Query Match 98.5% Score 859; DB 4; Length 415;
Best local similarity 98.8% Pred. No. 8,60-85;
Matches 164; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

1b 250 MSYNLHGFQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 409
27 61 EMLGNFAIFPGQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 120
3b 310 EMLGNFAIFPGQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 409
27 121 ELKRYVGLHYLAKRYSNFWMTIVYVELLNRYKINRGLGYRN 166
3b 470 ELKRYVGLHYLAKRYSNFWMTIVYVELLNRYKINRGLGYRN 415

RESULT 11
Query Match 98.4% Score 857; DB 2; Length 166;
Best local similarity 98.2% Pred. No. 4,10-85;
Matches 163; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

1b 61 EMLGNFAIFPGQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 60
27 1 MSYNLHGFQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 80
3b 61 EMLGNFAIFPGQSSNFGVQKILWQINSELYTLLKNNELFPEELGQVQCEVALITY 120

```





```

CORRESPONDENT ADDRESS:
ADDRESS: James F. Haley, Jr.
STREET: Fish & Newey, 1251 Avenue of the
SOURCES: Americas
CITY: New York
STATE: New York
COUNTRY: USA
ZIP: 10020-1104
MODER HEADLINE FORM:
MODER TYPE: floppy disk
MODER: IBM PC compatible
OPERATING SYSTEM: pc bios 6.04
SOFTWARE: Patented Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US96/04206
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Haley Jr., James F.
REGISTRATION NUMBER: 27,794
REFERENCE/DOCKET NUMBER: 8179
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 596-9000
TELEFAX: (212) 596-9090
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 166 amino acids
TYPE: amino acid
STANDARD: single
TOPOLOGY: linear
MOLECULE TYPE: protein
HYDROPHILIC: No
ANTISENSE: No
PCT US96-04206-1

Query Match:          97.9%  Score 854:  DB 5:  Length 166:
Host Local Similarity 98.2%:  Prod. No. 8-6e-85:
Matches 163:  Conservative 0:  Mismatches 3:  Indels 0:  Gaps 0:

UY 1 MSYNLAFPLQSSNPGVQKIMQINRQYCKIKDPNNPPIPEIKIQPQREDAALTY 60
DB 1 MSYNLAFPLQSSNPGVQKIMQINRQYCKIKDPNNPPIPEIKIQPQREDAALTY 60
UY 61 EMLGNIFAIIPRODSSSTWNNETIVNNILANYHQLINRKLVEPRERKEDHTRCALMSL 120
DB 61 EMLGNIFAIIPRODSSSTWNNETIVNNILANYHQLINRKLVEPRERKEDHTRCALMSL 120
UY 121 HIKRYGRILHYLKAKEYSHCAWTVKVEILRNFRKINRITGVYRN 166
DB 121 HIKRYGRILHYLKAKEYSHCAWTVKVEILRNFRKINRITGVYRN 166
UY 142 HIKRYGRILHYLKAKEYSHCAWTVKVEILRNFRKINRITGVYRN 187
DB 142 HIKRYGRILHYLKAKEYSHCAWTVKVEILRNFRKINRITGVYRN 187

PATENT 15
US-09-832-768-3
Sequence 3: Application US/09/12768
Patent No. 6127682
GENERAL INFORMATION:
APPLICANT: Gao, Susan E.
APPLICANT: Gao, Richard L.
APPLICANT: Poplisky, Blake R.
APPLICANT: Chow, Pringchao E.
TITLE OF INVENTION: No. 6127682:1 Methods of TFN-RNA
NUMBER OF SEQUENCES: 4
CORRESPONDENT ADDRESS:
ADDRESS: James F. Haley, Jr.
STREET: Fish & Newey, 1251 Avenue of the Americas
CITY: New York
STATE: New York
COUNTRY: USA
ZIP: 10020-1104
MODER HEADLINE FORM:
MODER TYPE: floppy disk
MODER: IBM PC compatible

```

```

OPERATING SYSTEM: PC-BIOS/MS-DOS
SOFTWARE: Patent Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US-09-832-768-3
FILING DATE:
CLASSIFICATION:
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: 08/479,374
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Haley Jr., James F.
REGISTRATION NUMBER: 27,794
REFERENCE/DOCKET NUMBER: 8179
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 596-9000
TELEFAX: (212) 596-9090
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 187 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-912-768-3

Query Match:          97.9%  Score 854:  DB 3:  Length 187:
Host Local Similarity 98.2%:  Prod. No. 10-84:
Matches 163:  Conservative 0:  Mismatches 3:  Indels 0:  Gaps 0:

UY 1 MSYNLAFPLQSSNPGVQKIMQINRQYCKIKDPNNPPIPEIKIQPQREDAALTY 60
DB 22 MSYNLAFPLQSSNPGVQKIMQINRQYCKIKDPNNPPIPEIKIQPQREDAALTY 61
UY 61 EMLGNIFAIIPRODSSSTWNNETIVNNILANYHQLINRKLVEPRERKEDHTRCALMSL 120
DB 82 EMLGNIFAIIPRODSSSTWNNETIVNNILANYHQLINRKLVEPRERKEDHTRCALMSL 141
UY 121 HIKRYGRILHYLKAKEYSHCAWTVKVEILRNFRKINRITGVYRN 166
DB 142 HIKRYGRILHYLKAKEYSHCAWTVKVEILRNFRKINRITGVYRN 187

Search completed: May 6, 2003, 09:56:10
Job time: 13 secs

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Matches 161: Conservative 1: Mismatches 4: Indels 0: Gaps 0:

```

QY 1 MAYAALGALQASSNPQVQVILMLNINRLEFVTKIKMNNVTHHICGLDQFQKRNALITY 60
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Db 1 MSYNLGLFQSSNPQVQVILMLNINRLEFVTKIKMNNVTHHICGLDQFQKRNALITY 60
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
QY 61 EMQNFALFPRQSSSTWNNETVENLJANYHJQINIKRYVLEKREKREKRNALITY 120
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Db 61 EMQNFALFPRQSSSTWNNETVENLJANYHJQINIKRYVLEKREKREKRNALITY 120
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
QY 121 HLRKYGRILHYKAEYSBAMTIVKVELLNFRINRILQYLRN 166
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Db 121 HLRKYGRILHYKAEYSBAMTIVKVELLNFRINRILQYLRN 166
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

```

RESULT 2  
US-09-14497-7

```

1 Sequence 7: Application: p77050814497
2 GENERAL INFORMATION:
3 APPLICANT: 708 111, George N
4 APPLICANT: Health Biotechnology, Inc.
5 TITLE OF INVENTION: polypeptides of Growth Hormone and Related Proteins
6 FILE REFERENCE: BR0011
7 CURRENT APPLICATION NUMBER: PCT/0508/214497
8 CURRENT FILING DATE: 1998-07-14
9 EARLIER APPLICATION NUMBER: 60/052,516
10 EARLIER FILING DATE: 1997-07-14
11 NUMBER OF SEQ ID NOS: 41
12 SOFTWARE: FASTSP for Windows Version 4.0
13 SEQ ID NO: 5
14 LENGTH: 166
15 TYPE: PRT
16 ORGANISM: Homo sapiens
17 PRT US09 14497 5

```

Query Match: 95.6%; Score 829; DB 15; Length 166;  
Best Local Similarity: 95.6%; Prod. No. 3,40-77;  
Matches 159: Conservative 1: Mismatches 6: Indels 0: Gaps 0:

```

QY 1 MAYAALGALQASSNPQVQVILMLNINRLEFVTKIKMNNVTHHICGLDQFQKRNALITY 60
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Db 1 MSYNLGLFQSSNPQVQVILMLNINRLEFVTKIKMNNVTHHICGLDQFQKRNALITY 60
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
QY 61 EMQNFALFPRQSSSTWNNETVENLJANYHJQINIKRYVLEKREKREKRNALITY 120
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Db 61 EMQNFALFPRQSSSTWNNETVENLJANYHJQINIKRYVLEKREKREKRNALITY 120
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
QY 121 HLRKYGRILHYKAEYSBAMTIVKVELLNFRINRILQYLRN 166
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Db 121 HLRKYGRILHYKAEYSBAMTIVKVELLNFRINRILQYLRN 166
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

```

RESULT 4

```

US-09-157-008-7
1 Sequence 7: Application: US/09157068
2 GENERAL INFORMATION:
3 APPLICANT: Battelle C. Conklin
4 APPLICANT: Battelle C. Conklin
5 APPLICANT: Wayne Kinsvogel
6 APPLICANT: Wayne Kinsvogel
7 TITLE OF INVENTION: Interferon epsilon
8 FILE REFERENCE: 98 46
9 CURRENT APPLICATION NUMBER: US/09/157-008
10 CURRENT FILING DATE: 1998-09-18
11 NUMBER OF SEQ ID NOS: 17
12 SOFTWARE: FASTSP for Windows Version 4.0
13 SEQ ID NO: 7
14 LENGTH: 166
15 TYPE: PRT
16 ORGANISM: Homo sapiens
17 PRT US-09-157-008-7

```

Query Match: 95.6%; Score 829; DB 15; Length 166;

Best Local Similarity: 95.6%; Prod. No. 3,40-77;  
Matches 159: Conservative 1: Mismatches 6: Indels 0: Gaps 0:

```

QY 1 MAYAALGALQASSNPQVQVILMLNINRLEFVTKIKMNNVTHHICGLDQFQKRNALITY 60
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Db 1 MSYNLGLFQSSNPQVQVILMLNINRLEFVTKIKMNNVTHHICGLDQFQKRNALITY 60
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
QY 61 EMQNFALFPRQSSSTWNNETVENLJANYHJQINIKRYVLEKREKREKRNALITY 120
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Db 61 EMQNFALFPRQSSSTWNNETVENLJANYHJQINIKRYVLEKREKREKRNALITY 120
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
QY 121 HLRKYGRILHYKAEYSBAMTIVKVELLNFRINRILQYLRN 166
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Db 121 HLRKYGRILHYKAEYSBAMTIVKVELLNFRINRILQYLRN 166
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

```

RESULT 4

```

US-09-245-294-7
1 Sequence 7: Application: US/09245294
2 GENERAL INFORMATION:
3 APPLICANT: Conklin, Darrell
4 APPLICANT: Grant, Francis J.
5 APPLICANT: Grant, Francis J.
6 APPLICANT: Rixon, Mark W.
7 TITLE OF INVENTION: INTERFERON-EPSILON
8 FILE REFERENCE: 98-4682
9 CURRENT APPLICATION NUMBER: US/09/245-294
10 CURRENT FILING DATE: 1999-02-05
11 NUMBER OF SEQ ID NOS: 25
12 SOFTWARE: FASTSP for Windows Version 4.0
13 SEQ ID NO: 7
14 LENGTH: 166
15 TYPE: PRT
16 ORGANISM: Homo sapiens
17 PRT US-09-245-294-7

```

Query Match: 95.6%; Score 829; DB 15; Length 166;  
Best Local Similarity: 95.6%; Prod. No. 3,40-77;  
Matches 159: Conservative 1: Mismatches 6: Indels 0: Gaps 0:

```

QY 1 MAYAALGALQASSNPQVQVILMLNINRLEFVTKIKMNNVTHHICGLDQFQKRNALITY 60
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Db 1 MSYNLGLFQSSNPQVQVILMLNINRLEFVTKIKMNNVTHHICGLDQFQKRNALITY 60
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
QY 61 EMQNFALFPRQSSSTWNNETVENLJANYHJQINIKRYVLEKREKREKRNALITY 120
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Db 61 EMQNFALFPRQSSSTWNNETVENLJANYHJQINIKRYVLEKREKREKRNALITY 120
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
QY 121 HLRKYGRILHYKAEYSBAMTIVKVELLNFRINRILQYLRN 166
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Db 121 HLRKYGRILHYKAEYSBAMTIVKVELLNFRINRILQYLRN 166
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

```

RESULT 5

```

US-09-450-232-7
1 Sequence 7: Application: US/09450232
2 GENERAL INFORMATION:
3 APPLICANT: Conklin, Darrell C.
4 APPLICANT: Grant, Francis J.
5 APPLICANT: Rixon, Mark W.
6 APPLICANT: Rixon, Mark W.
7 TITLE OF INVENTION: Interferon epsilon
8 FILE REFERENCE: 98 46
9 CURRENT APPLICATION NUMBER: US/09/450-232
10 CURRENT FILING DATE: 1999-07-08
11 NUMBER OF SEQ ID NOS: 25
12 SOFTWARE: FASTSP for Windows Version 4.0
13 SEQ ID NO: 7
14 LENGTH: 166
15 TYPE: PRT
16 ORGANISM: Homo sapiens
17 PRT US-09-450-232-7

```

Query Match 95.6% Score 829 DB 17 Length 166  
 Best Local Similarity 95.8% Pctd. No. 3,46-77  
 Matches 159 Conservative 1 Mismatches 6 Indels 0 Gaps 0

QY 1 MAYAALGALQASSNPGQKILWLNQPLFVYKQPMNDIPPEFKQLQPEKQKALATY 60  
 DB 1 MSYNLLEFQSSNPGQKILWLNQPLFVYKQPMNDIPPEFKQLQPEKQKALATY 60  
 QY 61 EMDGNLFAIFRQSSSTQWMTIVPNLANYVH21NHLKTVIPEKPEKDEFTQWAMSI 120  
 DB 61 EMDGNLFAIFRQSSSTQWMTIVPNLANYVH21NHLKTVIPEKPEKDEFTQWAMSI 120  
 QY 121 HIKRYVGRILHYIKAKYKSYBAMTIVVEHLKNTYINLGLCYLKN 166  
 DB 121 HIKRYVGRILHYIKAKYKSYBAMTIVVEHLKNTYINLGLCYLKN 166

## RESULT 6

US-09-403-5328-1  
 Sequence 1: Application US-09-403-5328

GENERAL INFORMATION:  
 APPLICANT: Schneider, Prescious, Christian  
 APPLICANT: Otto, Bernd  
 APPLICANT: Maschütz, Gero  
 TITLE OF INVENTION: Human recombinant beta-interferon with improved  
 TITLE OF INVENTION: Solubility  
 FILE REFERENCE: 127-65050  
 CURRENT FILING DATE: 1997-04-22  
 PRIOR FILING DATE: 2000-02-22  
 PRIOR APPLICATION NUMBER: PCT/DE97/02239  
 PRIOR FILING DATE: 1998-04-16  
 PRIOR APPLICATION NUMBER: DE 197 7864.2  
 PRIOR FILING DATE: 1997-04-22  
 NUMBER OF SEQ ID NOS: 22  
 SOFTWARE: Patent In Ver. 2.1  
 SEQ ID NO 1  
 LENGTH: 166  
 TYPE: PRT  
 ORGANISM: Homo sapiens  
 US-09-403-5328-1

Query Match 95.6% Score 829 DB 18 Length 166  
 Best Local Similarity 95.8% Pctd. No. 3,46-77  
 Matches 159 Conservative 1 Mismatches 6 Indels 0 Gaps 0

QY 1 MAYAALGALQASSNPGQKILWLNQPLFVYKQPMNDIPPEFKQLQPEKQKALATY 60  
 DB 1 MSYNLLEFQSSNPGQKILWLNQPLFVYKQPMNDIPPEFKQLQPEKQKALATY 60  
 QY 61 EMDGNLFAIFRQSSSTQWMTIVPNLANYVH21NHLKTVIPEKPEKDEFTQWAMSI 120  
 DB 61 EMDGNLFAIFRQSSSTQWMTIVPNLANYVH21NHLKTVIPEKPEKDEFTQWAMSI 120  
 QY 121 HIKRYVGRILHYIKAKYKSYBAMTIVVEHLKNTYINLGLCYLKN 166  
 DB 121 HIKRYVGRILHYIKAKYKSYBAMTIVVEHLKNTYINLGLCYLKN 166

## RESULT 7

US-09-462-941-5  
 Sequence 5: Application US-09-462-941

GENERAL INFORMATION:  
 APPLICANT: Cox, Lita George N  
 APPLICANT: Holder Biotechnologies, Inc.  
 TITLE OF INVENTION: Polypeptides of cow with hormone and related products  
 FILE REFERENCE: 41521-PUS  
 CURRENT APPLICATION NUMBER: us-09-462-941  
 CURRENT FILING DATE: 2000-01-14  
 PRIOR APPLICATION NUMBER: 66/0652,546  
 PRIOR FILING DATE: 1997-07-14  
 NUMBER OF SEQ ID NOS: 41  
 SOFTWARE: Patent In Ver. 2.0

SEQ ID NO 5  
 LENGTH: 166  
 TYPE: PRT  
 ORGANISM: Homo sapiens  
 US-09-462-941-5

Query Match 95.6% Score 829 DB 18 Length 166  
 Best Local Similarity 95.8% Pctd. No. 3,46-77  
 Matches 159 Conservative 1 Mismatches 6 Indels 0 Gaps 0

QY 1 MAYAALGALQASSNPGQKILWLNQPLFVYKQPMNDIPPEFKQLQPEKQKALATY 60  
 DB 1 MSYNLLEFQSSNPGQKILWLNQPLFVYKQPMNDIPPEFKQLQPEKQKALATY 60  
 QY 61 EMDGNLFAIFRQSSSTQWMTIVPNLANYVH21NHLKTVIPEKPEKDEFTQWAMSI 120  
 DB 61 EMDGNLFAIFRQSSSTQWMTIVPNLANYVH21NHLKTVIPEKPEKDEFTQWAMSI 120  
 QY 121 HIKRYVGRILHYIKAKYKSYBAMTIVVEHLKNTYINLGLCYLKN 166  
 DB 121 HIKRYVGRILHYIKAKYKSYBAMTIVVEHLKNTYINLGLCYLKN 166

## RESULT 8

US-09-569-722-1  
 Sequence 1: Application US-09-569-722

GENERAL INFORMATION:  
 APPLICANT: Boudziou, Boris  
 APPLICANT: Koval, Nikolai A. has applied with INTERFER N BEZA  
 TITLE OF INVENTION: ACTIVITY  
 FILE REFERENCE: 71-655,734-1, 645,496  
 CURRENT APPLICATION NUMBER: us-09-569-722  
 CURRENT FILING DATE: 2000-05-11  
 PRIOR APPLICATION NUMBER: DEFR 60/193,785  
 PRIOR FILING DATE: 1999-05-12  
 NUMBER OF SEQ ID NOS: 45  
 SOFTWARE: Patent In Ver. 2.1  
 SEQ ID NO 1  
 LENGTH: 166  
 TYPE: PRT  
 ORGANISM: Homo sapiens  
 US-09-569-722-1

Query Match 95.6% Score 829 DB 19 Length 166  
 Best Local Similarity 95.8% Pctd. No. 3,46-77  
 Matches 159 Conservative 1 Mismatches 6 Indels 0 Gaps 0

QY 1 MAYAALGALQASSNPGQKILWLNQPLFVYKQPMNDIPPEFKQLQPEKQKALATY 60  
 DB 1 MSYNLLEFQSSNPGQKILWLNQPLFVYKQPMNDIPPEFKQLQPEKQKALATY 60  
 QY 61 EMDGNLFAIFRQSSSTQWMTIVPNLANYVH21NHLKTVIPEKPEKDEFTQWAMSI 120  
 DB 61 EMDGNLFAIFRQSSSTQWMTIVPNLANYVH21NHLKTVIPEKPEKDEFTQWAMSI 120  
 QY 121 HIKRYVGRILHYIKAKYKSYBAMTIVVEHLKNTYINLGLCYLKN 166  
 DB 121 HIKRYVGRILHYIKAKYKSYBAMTIVVEHLKNTYINLGLCYLKN 166

## RESULT 9

US-09-569-722-2  
 Sequence 2: Application US-09-569-722

GENERAL INFORMATION:  
 APPLICANT: Boudziou, Boris  
 APPLICANT: Koval, Nikolai A. has applied with INTERFER N BEZA  
 TITLE OF INVENTION: ACTIVITY  
 FILE REFERENCE: 71-655,734-1, 645,496  
 CURRENT APPLICATION NUMBER: us-09-569-722  
 CURRENT FILING DATE: 2000-05-11  
 PRIOR APPLICATION NUMBER: DEFR 60/193,785  
 PRIOR FILING DATE: 1999-05-12  
 NUMBER OF SEQ ID NOS: 45

TITLE OF INVENTION: Novel Polyethylenes and Polypropylenes Encoding Same  
FILE REFERENCE: 1596-615  
INVENTOR: ARIEL AITAN, 5094022, 07/07/92, 2,436  
CURRENT FILING DATE: 2001-09-14  
PRIOR APPLICATION NUMBER: 60/169,887  
PRIOR FILING DATE: 1999-12-09  
PRIOR APPLICATION NUMBER: 63/170,240  
PRIOR FILING DATE: 1999-12-10  
NUMBER OF SEQ ID NOS: 26  
SOFTWARE: PatentIn Ver. 2.1  
SEQ ID NO 16

LENGTH: 166  
 TYPE: PRT  
 ORGANISM: Homo sapiens  
 US-09-732-446-16

Query Match: 95.6%; Score 829; DB 21; Length 166;  
 Best Local Similarity: 95.8%; Pred. No. 3, 46-77;  
 Matches 159; Conservative 1; Mismatches 6; Indels 0; Gaps 6.

QY 1 MAYAAL:AIQASSNFOGQKIMQINRHYGFKPMNFDIPETKQIQGQKEDALITY 60  
 DB 1 MSYNLIGFDQSSNFOGQKIMQINRHYGFKPMNFDIPETKQIQGQKEDALITY 60  
 QY 61 EMQNFALFRQSSSTGMNETIVENLANYVHQINHLKTVLEEKLEKEDFRGALMSSL 120  
 DB 61 EMQNFALFRQSSSTGMNETIVENLANYVHQINHLKTVLEEKLEKEDFRGALMSSL 120  
 QY 121 HKRYVGRITHTYKAEYSHCAWTIVVEILNRPYFINPLTGYLRN 166  
 DB 121 HKRYVGRITHTYKAEYSHCAWTIVVEILNRPYFINPLTGYLRN 166

RESULT 14  
 US-09-732-446-16  
 Sequence 16; Application US/09732436D  
 GENERAL INFORMATION:  
 APPLICANT: Prayaga, Subjitdas K  
 APPLICANT: Shinkots, Richard A  
 TITLE OF INVENTION: Novel Polypeptides and Polynucleotides Encoding Same  
 FILE REFERENCE: 15966-615  
 CURRENT FILING DATE: 2000-12-07  
 PRIOR FILING DATE: 2000-12-07  
 PRIOR APPLICATION NUMBER: 60/769,887  
 PRIOR FILING DATE: 1999-12-09  
 PRIOR APPLICATION NUMBER: 60/770,230  
 PRIOR FILING DATE: 1999-12-10  
 NUMBER OF SEQ ID NOS: 26  
 SOFTWARE: Patent In Ver. 2.1  
 SEQ ID NO 16  
 TYPE: PRT  
 LENGTH: 166  
 ORGANISM: Homo sapiens  
 US-09-732-446D-16

Query Match: 95.6%; Score 829; DB 21; Length 166;  
 Best Local Similarity: 95.8%; Pred. No. 3, 46-77;  
 Matches 159; Conservative 1; Mismatches 6; Indels 0; Gaps 6;

QY 1 MAYAAL:AIQASSNFOGQKIMQINRHYGFKPMNFDIPETKQIQGQKEDALITY 60  
 DB 1 MSYNLIGFDQSSNFOGQKIMQINRHYGFKPMNFDIPETKQIQGQKEDALITY 60  
 QY 61 EMQNFALFRQSSSTGMNETIVENLANYVHQINHLKTVLEEKLEKEDFRGALMSSL 120  
 DB 61 EMQNFALFRQSSSTGMNETIVENLANYVHQINHLKTVLEEKLEKEDFRGALMSSL 120  
 QY 121 HKRYVGRITHTYKAEYSHCAWTIVVEILNRPYFINPLTGYLRN 166  
 DB 121 HKRYVGRITHTYKAEYSHCAWTIVVEILNRPYFINPLTGYLRN 166

RESULT 15  
 US-09-791-537-95294  
 Sequence 95293; Application US/09791537  
 GENERAL INFORMATION:  
 APPLICANT: Biomedix, Inc.  
 APPLICANT: Debo, Derek  
 APPLICANT: Danczer, Joseph  
 TITLE OF INVENTION: THREE DIMENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMB  
 FILE REFERENCE: 261/210  
 CURRENT APPLICATION NUMBER: 62/367,791,537  
 CURRENT FILING DATE: 2001-02-22

NUMBER OF SEQ ID NOS: 153055  
 SOFTWARE: Patent In version 3.0  
 SEQ ID NO 95293  
 LENGTH: 166  
 TYPE: PRT  
 ORGANISM: pdb 1A01A  
 US-09-791-537-95293

Query Match: 95.6%; Score 829; DB 21; Length 166;  
 Best Local Similarity: 95.8%; Pred. No. 3, 46-77;  
 Matches 159; Conservative 1; Mismatches 6; Indels 0; Gaps 0;

QY 1 MAYAAL:AIQASSNFOGQKIMQINRHYGFKPMNFDIPETKQIQGQKEDALITY 60  
 DB 1 MSYNLIGFDQSSNFOGQKIMQINRHYGFKPMNFDIPETKQIQGQKEDALITY 60  
 QY 61 EMQNFALFRQSSSTGMNETIVENLANYVHQINHLKTVLEEKLEKEDFRGALMSSL 120  
 DB 61 EMQNFALFRQSSSTGMNETIVENLANYVHQINHLKTVLEEKLEKEDFRGALMSSL 120  
 QY 121 HKRYVGRITHTYKAEYSHCAWTIVVEILNRPYFINPLTGYLRN 166  
 DB 121 HKRYVGRITHTYKAEYSHCAWTIVVEILNRPYFINPLTGYLRN 166

Search completed: May 6, 2003, 10:01:00  
 Job time: 141.5 secs







```

1  APPLICANT: Beckley, Alvin
2  APPLICANT: Burckle, Laura
3  APPLICANT: Brockmeyer, Marjot
4  APPLICANT: Buitry, Adrian
5  APPLICANT: Boehman, Paula
6  TITLE OF INVENTION: Polymers/Conjugates of Interleukin Beta-1a
7  TITLE OF INVENTION: and Uses
8  FILLING DATE: 00699-514/A065
9  CURRENT APPLICANT NUMBER: 65-299,982, 699A
10 CURRENT FILING DATE: 2001-04-11
11 PREVIOUS APPLICANT NUMBER: 601 00509 724,001
12 PREVIOUS FILING DATE: 1999-10-15
13 PREVIOUS APPLICANT NUMBER: 601/04,572
14 PREVIOUS FILING DATE: 1996-10-16
15 PREVIOUS APPLICANT NUMBER: 601/20,161
16 PREVIOUS FILING DATE: 1999-02-16
17 NUMBER OF SEQ ID NOS: 10
18 SEQUENCE: FastSeq for Windows Version 4.0
19 SEQ ID NO: 16
20 LENGTH: 100
21 TYPE: CDS
22 ORGANISM: human
23 OS: macz 6.6.0A.25

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Category	Material	97-100	Score 84.2	198-57	Length 166				
Post-Lat	Stimilarity	97.000	Prod. No. 4	400					
Materials	1-17	Continuous	1	Materials	4	Index	0	Cups	0
07	1	MAVAALACACASSNPOCOKIMOLNOLBOLBYLKOJONNDIPEERKICQOPREPAALITY	60						
10	1	MSYMLDEELGSSNPNQKELWOLNDEBELYLKOJONNDIPEERKICQOPREPAALITY	60						
07	61	EMJUNIFATPROSSSTONNPTTVNMLANVYHUNAIKTVIEEKERENTPCALMSL	120						
10	61	EMJUNIFATPROSSSTONNPTTVNMLANVYHUNAIKTVIEEKERENTPCALMSL	120						
07	121	HEKEVYCGRIHAKAKYNSICAMTVARELLENFYINRITGYLEN	166						
10	121	HEKEVYCGRIHAKAKYNSICAMTVARELLENFYINRITGYLEN	166						

```

1 RESOLUTION 4
2 US 09 042 655A 00
3
4 Sequence: 00, Application US/09/042655A
5
6 GENERAL INFORMATION:
7
8 APPLICANT: PETLISKY, Blake
9
10 APPLICANT: Bouckel, Laura
11
12 APPLICANT: Brickmeyer, Margot
13
14 APPLICANT: Whitty, Adrian
15
16 APPLICANT: Invention, Paul A
17
18 TITLE: An Invention: Polymers Compositions of Intercrossed Beta-1a
19
20 TITLE REFERENCE: and US/08
21
22 FILE REFERENCE: 00009 514/0005
23
24 CURRENT APPLICATION NUMBER: US/09/042 655A
25
26 CURRENT FILING DATE: 2001 04 11
27
28 PREVIOUS APPLICANT'S NUMBER: 199 0000 044001
29
30 PREVIOUS FILING DATE: 1999 10 15
31
32 PREVIOUS APPLICANT'S NUMBER: 602104 532
33
34 PREVIOUS FILING DATE: 1998 10 15
35
36 PREVIOUS APPLICATION NUMBER: 602120 161
37
38 PREVIOUS FILING DATE: 1999 02 16
39
40 NUMBER OF SEQ IDS: 40
41
42 SEQUENCE: Each SEQ. for Windows Version 4.0
43
44 SEQ ID: No. 00
45
46 LENGTH: 106
47
48 TYPE: FRT
49
50 ORGANISM: human
51
52 US 09 042 655A 00

```

Survey Methods	95, 78;	Scores 800; 148 5;	Length 166;
Local Local Similarity	95, 88;	Prod. No. 7, 20, 84;	
Methods	199;	Conservation	6;
		Mismatches	0;
		Indels	0;
		Gaps	0;

[illegible]

```

1 RESULT 4
2 PCT-US02-40891-463
3
4 Sequence 463, Application PCT/US0240891
5
6 GENERAL INFORMATION:
7 APPLICANT: Human Genome Sciences, Inc.
8 TITLE OF INVENTION: ALBUMIN Fusion Proteins
9 FILE REFERENCE: P5564PCT
10 CURRENT PCT FILING DATE: 2002-12-24
11
12 PRIOR APPLICATION NUMBER: 60/341,811
13 PRIOR FILING DATE: 2001-12-21
14
15 PRIOR APPLICATION NUMBER: 60/460,000
16 PRIOR FILING DATE: 2002-02-28
17
18 PRIOR APPLICATION NUMBER: 60/478,950
19 PRIOR FILING DATE: 2002-05-10
20
21 PRIOR APPLICATION NUMBER: 60/498,008
22 PRIOR FILING DATE: 2002-07-24
23
24 PRIOR APPLICATION NUMBER: 60/411,575
25 PRIOR FILING DATE: 2002-09-18
26
27 PRIOR APPLICATION NUMBER: 60/414,984
28 PRIOR FILING DATE: 2002-10-02
29
30 PRIOR APPLICATION NUMBER: 60/417,611
31 PRIOR FILING DATE: 2002-10-11
32
33 PRIOR APPLICATION NUMBER: 60/420,246
34 PRIOR FILING DATE: 2002-10-24
35
36 PRIOR APPLICATION NUMBER: 60/424,623
37 PRIOR FILING DATE: 2002-11-05
38
39 PRIOR APPLICATION NUMBER: 60/451,460
40 PRIOR FILING DATE: 2002-01-28
41
42 Remaining Prior Application data removed
43
44 NUMBER OF SEQ ID NOS: 222
45
46 SOFTWARE: Patent Vst. 2.0
47
48 SEQ ID NO 463
49
50 LENGTH: 166
51
52 TYPE: PPT
53
54 ORGANISM: Homo Sapiens
55
56 CDT-US02-40891-463

```

RESULT 5  
PCT-0502 41091-464  
Sequence 464, Application PCT/US02/0891  
; GENERAL INFORMATION:  
; APPLICANT: Human Genome Sciences, Inc.,

```

1 TITLE OF INVENTION: Albumin Fusion Proteins
2 FILE REFERENCE: P5564PCT
3 CURRENT APPLICATION NUMBER: PCT/US02/40891
4 PRIOR FILING DATE: 2002-12-23
5 PRIOR APPLICATION NUMBER: 60/414,811
6 PRIOR FILING DATE: 2002-12-23
7 PRIOR APPLICATION NUMBER: 60/490,000
8 PRIOR FILING DATE: 2002-02-28
9 PRIOR APPLICATION NUMBER: 60/518,950
10 PRIOR FILING DATE: 2002-05-10
11 PRIOR APPLICATION NUMBER: 60/398,008
12 PRIOR FILING DATE: 2002-07-24
13 PRIOR APPLICATION NUMBER: 60/411,355
14 PRIOR FILING DATE: 2002-09-18
15 PRIOR APPLICATION NUMBER: 60/414,984
16 PRIOR FILING DATE: 2002-10-02
17 PRIOR APPLICATION NUMBER: 60/417,611
18 PRIOR FILING DATE: 2002-10-11
19 PRIOR APPLICATION NUMBER: 60/420,246
20 PRIOR FILING DATE: 2002-10-23
21 PRIOR APPLICATION NUMBER: 60/451,360
22 PRIOR FILING DATE: 2002-11-05
23 PRIOR APPLICATION NUMBER: 60/451,360
24 PRIOR FILING DATE: 2002-01-28
25 Remaining Prior Application data removed - See file wrapper of PALM.
26 NUMBER OF SEQ ID NOS: 2222
27 SOFTWARE: PatentIn Ver. 2.0
28 SEQ ID NO 464
29 LENGTH: 166
30 TYPE: PRT
31 ORGANISM: Homo sapiens
32 PCT-0502-40891-464

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Query Match          95.6%; Score 829; DB 1; Length 166;
Best Local Similarity 95.8%; Pred. No. 9 to 84;
Matches 159; Conservative 1; Mismatches 6; Indels 0; Gaps 0;

QY 1 MAYAATGATGASSNPGCKLWQNGRTFVTLKPMNFTPEETKCTQGFREFALTIY 60
DB 1 MSYNLGHLPQSSNPGYKRIWQNGPLEYCLKPMNEDPEEIKQUGDGFPAALTIY 60
QY 61 EMIGNTATFPQSSNPGWPTVTVNFGAVYVHJRGKVLEKSTKEDFTPALMSSL 120
DB 61 EMIGNTATFPQSSNPGWPTVTVNFGAVYVHJRGKVLEKSTKEDFTPALMSSL 120
QY 121 HRRYVSHLHYLKAKEYSHCAWTVVEVLELRFYTNFTGYLGN 166
DB 121 HRRYVSHLHYLKAKEYSHCAWTVVEVLELRFYTNFTGYLGN 166

```

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RESULT 6
PCT-0502-40891-527
Sequence 533; Application PCT/US02/40891
GENERAL INFORMATION:
APPLICANT: Human Genome Sciences, Inc.
TITLE OF INVENTION: Albumin Fusion Proteins
FILE REFERENCE: P5564PCT
CURRENT APPLICATION NUMBER: PCT/US02/40891
PRIOR FILING DATE: 2002-12-23
PRIOR APPLICATION NUMBER: 60/341,811
PRIOR FILING DATE: 2002-12-21
PRIOR APPLICATION NUMBER: 60/490,000
PRIOR FILING DATE: 2002-02-28
PRIOR APPLICATION NUMBER: 60/418,950
PRIOR FILING DATE: 2002-05-10
PRIOR APPLICATION NUMBER: 60/398,008
PRIOR FILING DATE: 2002-07-24
PRIOR APPLICATION NUMBER: 60/411,355
PRIOR FILING DATE: 2002-09-18
PRIOR APPLICATION NUMBER: 60/414,984
PRIOR FILING DATE: 2002-10-02
PRIOR APPLICATION NUMBER: 60/417,611
PRIOR FILING DATE: 2002-10-11

```

```

PRIOR APPLICATION NUMBER: 60/420,246
PRIOR FILING DATE: 2002-10-23
PRIOR APPLICATION NUMBER: 60/412,623
PRIOR FILING DATE: 2002-11-05
PRIOR APPLICATION NUMBER: 60/451,360
PRIOR FILING DATE: 2002-01-28
Remaining Prior Application data removed - See file wrapper of PALM.
NUMBER OF SEQ ID NOS: 2222
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 527
LENGTH: 166
TYPE: PRT
ORGANISM: Homo sapiens
PCT-0502-40891-527

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Query Match          95.6%; Score 829; DB 1; Length 166;
Best Local Similarity 95.8%; Pred. No. 9 to 84;
Matches 159; Conservative 1; Mismatches 6; Indels 0; Gaps 0;

QY 1 MAYAATGATGASSNPGCKLWQNGRTFVTLKPMNFTPEETKCTQGFREFALTIY 60
DB 1 MSYNLGHLPQSSNPGYKRIWQNGPLEYCLKPMNEDPEEIKQUGDGFPAALTIY 60
QY 61 EMIGNTATFPQSSNPGWPTVTVNFGAVYVHJRGKVLEKSTKEDFTPALMSSL 120
DB 61 EMIGNTATFPQSSNPGWPTVTVNFGAVYVHJRGKVLEKSTKEDFTPALMSSL 120
QY 121 HRRYVSHLHYLKAKEYSHCAWTVVEVLELRFYTNFTGYLGN 166
DB 121 HRRYVSHLHYLKAKEYSHCAWTVVEVLELRFYTNFTGYLGN 166

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RESULT 7
PCT-0502-40891-539
Sequence 533; Application PCT/US02/40891
GENERAL INFORMATION:
APPLICANT: Human Genome Sciences, Inc.
TITLE OF INVENTION: Albumin Fusion Proteins
FILE REFERENCE: P5564PCT
CURRENT APPLICATION NUMBER: PCT/US02/40891
PRIOR FILING DATE: 2002-12-23
PRIOR APPLICATION NUMBER: 60/411,811
PRIOR FILING DATE: 2001-12-21
PRIOR APPLICATION NUMBER: 60/460,000
PRIOR FILING DATE: 2002-02-28
PRIOR APPLICATION NUMBER: 60/478,950
PRIOR FILING DATE: 2002-05-10
PRIOR APPLICATION NUMBER: 60/398,008
PRIOR FILING DATE: 2002-07-24
PRIOR APPLICATION NUMBER: 60/411,355
PRIOR FILING DATE: 2002-09-18
PRIOR APPLICATION NUMBER: 60/414,984
PRIOR FILING DATE: 2002-10-02
PRIOR APPLICATION NUMBER: 60/417,611
PRIOR FILING DATE: 2002-10-11
PRIOR APPLICATION NUMBER: 60/420,246
PRIOR FILING DATE: 2002-10-23
PRIOR APPLICATION NUMBER: 60/425,623
PRIOR FILING DATE: 2002-11-05
PRIOR APPLICATION NUMBER: 60/451,360
PRIOR FILING DATE: 2002-01-28
Remaining Prior Application data removed - See file wrapper of PALM.
NUMBER OF SEQ ID NOS: 2222
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 539
LENGTH: 166
TYPE: PRT
ORGANISM: Homo sapiens
PCT-0502-40891-539

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Query Match          95.6%; Score 829; DB 1; Length 166;
Best Local Similarity 95.8%; Pred. No. 9 to 84;
Matches 159; Conservative 1; Mismatches 6; Indels 0; Gaps 0;

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01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	

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PREFLIGHT
PORT 0302 40691 1724
2 Do-Process 1724, Application Port 030240691
3 TECHNICAL INFORMATION:
4 APPLICANT: Human Genome Sciences, Inc.
5 TITLE OF INVENTION: Alzheimer Fusion Proteins
6 FILE REFERENCE: 4564461
7 CURRENT APPLICATION NUMBER: 19740902 40691
8 CURRENT FILING DATE: 2002 12 24
9 PRIOR APPLICATION NUMBER: 60/441,811
10 PRIOR FILING DATE: 2001 12 21
11 PRIOR APPLICATION NUMBER: 60/340,000
12 PRIOR FILING DATE: 2002 02 28
13 PRIOR APPLICATION NUMBER: 60/338,950
14 PRIOR FILING DATE: 2002 03 10
15 PRIOR APPLICATION NUMBER: 60/308,068
16 PRIOR FILING DATE: 2002 07 24
17 PRIOR APPLICATION NUMBER: 60/411,355
18 PRIOR FILING DATE: 2002 09 18
19 PRIOR APPLICATION NUMBER: 60/444,984
20 PRIOR FILING DATE: 2002 10 02
21 PRIOR APPLICATION NUMBER: 60/447,611
22 PRIOR FILING DATE: 2002 10 11
23 PRIOR APPLICATION NUMBER: 60/440,246
24 PRIOR FILING DATE: 2002 10 23
25 PRIOR APPLICATION NUMBER: 60/443,623
26 PRIOR FILING DATE: 2002 11 05
27 PRIOR APPLICATION NUMBER: 60/351,360
28 PRIOR FILING DATE: 2002 01 28
29 Rejection of Application data removed - See File Wrapper of PAM.
30 NUMBER OF SEQ ID NOS: 2222
31 SOFTWARE: Patented v.1.2.0
32 SEQ ID NO: 1724
33 LENGTH: 606
34 TYPE: F4
35 ORGANISM: Homo sapiens
36 0302 40691 1724

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[illegible]

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1  APPLICANT: Human Genome Sciences, Inc.
2  TITLE OF INVENTION: Albumin Fusion Proteins
3  FILE REFERENCE: p5664pt
4  CURRENT APPLICATION NUMBER: 071/093627/40891
5  PRIOR FILING DATE: 2002-12-24
6  PRIOR APPLICATION NUMBER: 60/441,811
7  PRIOR FILING DATE: 2001-12-21
8  PRIOR APPLICATION NUMBER: 60/460,000
9  PRIOR FILING DATE: 2002-02-28
10 PRIOR APPLICATION NUMBER: 60/478,950
11 PRIOR FILING DATE: 2002-05-10
12 PRIOR APPLICATION NUMBER: 60/498,008
13 PRIOR FILING DATE: 2002-07-24
14 PRIOR APPLICATION NUMBER: 60/411,455
15 PRIOR FILING DATE: 2002-09-18
16 PRIOR APPLICATION NUMBER: 60/414,784
17 PRIOR FILING DATE: 2002-10-02
18 PRIOR APPLICATION NUMBER: 60/417,611
19 PRIOR FILING DATE: 2002-10-11
20 PRIOR APPLICATION NUMBER: 60/420,476
21 PRIOR FILING DATE: 2002-10-24
22 PRIOR APPLICATION NUMBER: 60/429,624
23 PRIOR FILING DATE: 2002-11-05
24 PRIOR APPLICATION NUMBER: 60/451,360
25 PRIOR FILING DATE: 2003-01-28
26 REMOVED FILER APPLICATION data removed
27 NUMBER OF SEQ ID NOS: 2222
28 SOFTWARE: Patentin Ver. 2.0
29 SEQ ID NO: 1724
30 LENGTH: 166
31 TYPE: PRT
32 ORGANISM: Homo sapiens
33
34 CDT-0502.40891.1724

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[illegible]

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RESULT 10
PCT-0802-40891-1725
1. INVENTOR: 1725, APPLICATION REF: 0802-40891
2. GENERAL INFORMATION:
3. APPLICANT: Human Genome Sciences, Inc.
4. TITLE OF INVENTION: Albumin Fusion Proteins
5. FILE REFERENCE: PF564P01
6. CURRENT FILING DATE: 2002-12-25
7. PRIOR APPLICATION NUMBER: 60/411,811
8. PRIOR FILING DATE: 2001-12-21
9. PRIOR APPLICATION NUMBER: 60/410,000
10. PRIOR FILING DATE: 2002-02-28
11. PRIOR APPLICATION NUMBER: 60/478,950
12. PRIOR FILING DATE: 2002-05-10
13. PRIOR APPLICATION NUMBER: 60/498,008
14. PRIOR FILING DATE: 2002-07-24
15. PRIOR APPLICATION NUMBER: 60/411,855
16. PRIOR FILING DATE: 2002-09-18
17. PRIOR APPLICATION NUMBER: 60/414,984
18. PRIOR FILING DATE: 2002-10-02
19. PRIOR APPLICATION NUMBER: 60/417,611

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Host Local Similarity: 95.8% Prod. No.: 9,30-84:
Matches: 159; Conservative: 1; Mismatches: 6; Indels: 0; Gaps: 0;

QY 1 MAYAALCALQASSNQVQKILWQINRLEYCLRPNNFTPPFTKQIQ4QKPDAAITY 60
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Db 1 MSYNLAFTLRSSNQVQKILWQINRLEYCLRPNNFTPPFTKQIQ4QKPDAAITY 60
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

QY 61 EMUNIFALFRQSSSTGWETTVENILANVYHQINHLKTVLEEKLEKRFITRGALMST 120
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Db 61 EMUNIFALFRQSSSTGWETTVPNLANVYHQINHLKTVLEEKLEKRFITRGALMST 120
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

QY 121 HIKRYVSEIIEIKKRYVSEAWTIYVEELINRYEINPEITLYRN 166
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Db 121 HIKRYVSEIIEIKKRYVSEAWTIYVEELINRYEINPEITLYRN 166
   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

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Search completed: May 6, 2003, 10:02:57  
 Job time: 56.5 secs





GenBank version 5.1.4.F5.4578  
Copyright (c) 1993 - 2003 Computer Ltd.

OM protein: protein found in us09-832-658a-25

Run on: May 6, 2003, 09:59:09 Search time 53 seconds  
(without alignments)  
645,395,311 bits (with alignments)

Title: US-09-832-658a-25

Percent score: 87%

Sequence: 1 MSYNLDPPIQPSMPVYX1

VE1LPPVYVINEYVYIN 166

Scoring table:

BLOSUM62

Gapop 10.0, Gapext 0.5

Searched:

671580 seqs, 206047115 residues

Total number of hits satisfying chosen parameters

671580

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing:

Minimum Match 0%

Listing first 45 summaries

Database:

SPRMBL\_21:  
1: sp\_archaea:  
2: sp\_bacteria:  
3: sp\_fungi:  
4: sp\_human:  
5: sp\_invertebrate:  
6: sp\_mammal:  
7: sp\_mmc:  
8: sp\_organelle:  
9: sp\_plage:  
10: sp\_plant:  
11: sp\_protist:  
12: sp\_virus:  
13: sp\_vertebrate:  
14: sp\_unclassified:  
15: sp\_virus:  
16: sp\_bacteriap:  
17: sp\_archaeap:

Prod. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Query Length	DB ID	Description
1	819	93.9	187	4	Q15943
2	817	93.7	187	4	Q15943
3	815	93.5	187	4	Q15943
4	813	93.3	187	4	Q15943
5	811	93.1	187	4	Q15943
6	809	92.9	187	4	Q15943
7	807	92.7	187	4	Q15943
8	805	92.5	187	4	Q15943
9	803	92.3	187	4	Q15943
10	801	92.1	187	4	Q15943
11	799	91.9	187	4	Q15943
12	797	91.7	187	4	Q15943
13	795	91.5	187	4	Q15943
14	793	91.3	187	4	Q15943
15	791	91.1	187	4	Q15943
16	789	90.9	187	4	Q15943

17	242	27.9	195	6	Q29541
18	235	26.9	190	6	Q29085
19	234	26.8	190	11	Q29891
20	232.5	26.6	179	6	Q29094
21	231.5	26.5	195	6	Q29070
22	230	26.4	190	6	Q29059
23	229.5	26.3	181	4	Q14608
24	226	26.0	166	4	Q14603
25	226	25.9	189	4	Q14605
26	224	25.7	190	11	Q29012
27	221	25.3	190	11	Q29119
28	220	25.2	166	4	Q29078
29	220	25.2	190	11	Q29012
30	217	24.9	190	11	Q29012
31	217	24.9	190	11	Q29012
32	216.5	24.8	207	4	Q29000
33	208	23.9	84	6	Q29148
34	208	23.9	201	11	Q29070
35	207	23.7	190	11	Q29012
36	205	23.5	190	11	Q29012
37	204.5	23.4	170	6	Q29114
38	204	23.4	190	11	Q29118
39	202.5	23.2	179	6	Q29115
40	202	23.2	190	11	Q29115
41	202	23.2	190	11	Q29115
42	200	22.9	186	11	Q29016
43	196	22.5	166	6	Q29228
44	195	22.4	197	11	Q29021
45	194	22.2	197	11	Q29019

## ALIGNMENTS

RESULT 1  
ID Q15943 PRELIMINARY: PRT: 187 AA.  
AC Q15943:  
DT 01-NOV-1996 (TEMBLrel. 01, Created)  
DT 01-NOV-1996 (TEMBLrel. 01, Last sequence update)  
DT 01-DEC-2001 (TEMBLrel. 19, Last annotation update)  
DE Interferon beta precursor.  
OS Homo sapiens (human).  
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.  
OX NCBI\_TaxID:9606;  
RN [1]  
RP SEQUENCE FROM N.A.  
FA Fiers W., Renaut E., Devos R., Chocaut H., Contreras R.R.,  
FA Givens D., Baggett W.M., Scharrow P., Thompson T., Taya Y.,  
RA Content J.:  
RT "The human fibroblast and human immune interferon genes and their  
RT expression in homologous and heterologous cells".  
RL Philos. Trans. R. Soc. Lond., B, Biol. Sci. 299:29-48(1984).  
CC -!- SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA  
CC FAMILY.  
CC EMBL: M25460; AAC11702.1;  
CC DDB: J01574; IAD1.  
CC HSSP: P01574; IAD1.  
DR Interferon: I18090771; Interferon\_abd.  
DR Pfam: P00145; Interferon\_1.  
DR TrnTrn: E00266; Interferon\_NAB.  
DR Eukarya: F000550; Interferon\_abd\_1.  
FE SMART: SM0076; Pfam: 1.  
FE Prosite: P00055; Interferon\_A\_b\_d; OXKX\_W1.  
KW Antigenic; Cytokine; signal.  
FT SIGNAL: 21  
FT CHAIN: 187  
SQ SEQUENCE 197 AA; 22451 MW; 18855p49e2061 CR644;  
Query Match: 93.9%, Score 819, BB 4, Length 187;  
Best Local Similarity: 95.3%, Prod. No. 1-65;  
Matches: 158, Conservative: 1, Mismatch: 7, Gaps: 0;









SEQUENCE FROM N.A.  
 RA Zeng Y., Li M., Zhou Y., Guo H., Hou Y.:  
 "The cloning, sequencing of the primary structure and expression in E.  
 coli Chinese human IFN- $\alpha$ 1 gene."  
 RL Sci. China B. 35:0(0).  
 RN 121  
 KN  
 SEQUENCE FROM N.A.  
 RA Xu L.:  
 Submitted (Apr 1999) to the EMBL/Genbank/DBJ databases.  
 CC 1 SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA  
 CC FAMILY.  
 DB EMBL: 029670; AAT0091.1;  
 DB HSSP: P01563; 2HIE;  
 DB InterPro: IP000471; Interferon\_abd.  
 DB Pfam: PF00143; Interferon\_1;  
 DB PRINTS: PR00266; INTERFERONAB.  
 DB Prodom: P000550; Interferon\_abd; 1.  
 DB SMART: SM00076; Ifabd; 1.  
 DB PROSITE: PS00262; INTERFERON\_A\_3\_0; 1.  
 KW Antiviral; cytokine.  
 RN 1  
 NN 1ER  
 SU SEQUENCE 174 AA; 20249 MW; HIC79A8599401655 CRC64;

Query Match 28.78; Score 250; DB 4; Length 174;  
 Best local similarity 48.08; Pred. No. 1, 5e-14;  
 Matches 92; Conserved 42; Mismatches 51; Indels 2; Gaps 2.

QY 1 CLKRMNFDPERIKQIQFQKIDAAITYEMQNIFAIPRODSSSTGNETIVNLAN 90  
 DB 1 CLKRMDFRFGKVRKISQIKAVMSALHMIQVIFSHTERSSAAMMTLLDQHTG 90  
 QY 91 VYHQTINKIVLEKLEKEDFTKALMSLHKRYGRLHVKAKVSHCAMTIVRVE 149  
 DB 91 LHOVLGHPTVLY-VGGPSSAGVASSPALLPFFYGGIYVLEKRYSDICAMEVDHME 149  
 QY 150 LKRFYRINLCTYLRN 166  
 DB 150 LKRSLSLSTNMQELRS 166

RESULT 14  
 Q9GL77 PRELIMINARY; PRT; 189 AA.  
 AC Q95J77;  
 DT 01-DEC-2001 (TrEMBLrel. 19, Created)  
 DT 01-DEC-2001 (TrEMBLrel. 19, Last sequence update)  
 DT 01-MAR-2002 (TrEMBLrel. 20, Last annotation update)  
 DB Interferon alpha precursor.  
 GN IFN ALPHA.  
 OS Saguinus oedipus (Common rhesus macaque).  
 OC Eukaryota; Metazoa; Chordata; Gracilata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Primates; Platyrrhini; Callitrichidae; Saguinus.  
 NX NCBI Taxid 94909;  
 RN 111  
 KN  
 SEQUENCE FROM N.A.  
 RA George A., Aultschilo L., Cliberto G., Palombo F., Traboni C.:  
 "Recombinant cotton-top tamarin interferon: a new tool for a primate  
 hepatitis model."  
 RL Submitted (Oct 1999) to the EMBL/Genbank/DBJ databases.  
 CC 1 SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA  
 CC FAMILY.  
 DB EMBL: AL250196; CA44125.1;  
 DB InterPro: IP000471; Interferon\_abd.  
 DB Pfam: PF00143; Interferon\_1;  
 DB Prodom: P000550; Interferon\_1;  
 DB PROSITE: PS00262; INTERFERON\_A\_3\_0; UNKNOWN\_1.  
 KW Antiviral; cytokine; Stimul.  
 FT SIGNAL 1 23 POTENTIAL.  
 FT CHAIN 1 189 INTERFERON-ALPHA.  
 SU SEQUENCE 189 AA; 22052 MW; 9E3489FF35290BA CRC64;

Query Match 28.78; Score 250; DB 6; Length 189;  
 Best local similarity 47.88; Pred. No. 1, 6e-14;

Matches 54; Conservative 24; Mismatches 51; Indels 14; Gaps 2;  
 QY 31 CLKRMNFDPERIKQIQFQKIDAAITYEMQNIFAIPRODSSSTGNETIVNLAN 90  
 DB 52 CLKRMDFRFGKVRKISQIKAVMSALHMIQVIFSHTERSSAAMMTLLDQHTG 90  
 QY 91 VYHQTINKIVLEKLEKEDFTKALMSLHKRYGRLHVKAKVSHCAMTIVRVE 149  
 DB 91 LHOVLGHPTVLY-VGGPSSAGVASSPALLPFFYGGIYVLEKRYSDICAMEVDHME 149  
 QY 144 TIVRVEPIRNFYRINLCTYLRN 166  
 DB 165 EYVRAIMRSPSLTNLQKLSR 187

RESULT 15  
 Q9GL6 PRELIMINARY; PRT; 195 AA.  
 AC Q9GL6;  
 DT 01-MAR-2001 (TrEMBLrel. 16, Created)  
 DT 01-MAR-2001 (TrEMBLrel. 16, Last sequence update)  
 DT 01-DEC-2001 (TrEMBLrel. 19, Last annotation update)  
 DB Interferon tau.  
 GN IFN-TAU-C3.  
 OS Bos taurus (Bovine).  
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;  
 OC Bovidae; Bovinae; Bos.  
 NX NCBI Taxid 9913;  
 RN 111  
 KN  
 SEQUENCE FROM N.A.  
 RA Chung Y.G., Seidel G.E. Jr.:  
 "Cloning bovine interferon-tau genes and characterizing their  
 transcriptional expression during early pregnancy."  
 RL Submitted (Feb-2000) to the EMBL/Genbank/DBJ databases.  
 CC 1 SIMILARITY: BELONGS TO THE INTERFERON ALPHA, BETA AND DELTA  
 CC FAMILY.  
 DB EMBL: AF238611; AAC1468.1;  
 DB HSSP: P01563; 2HIE;  
 DB InterPro: IP000471; Interferon\_abd.  
 DB Pfam: PF00143; Interferon\_1;  
 DB PRINTS: PR00266; INTERFERONAB.  
 DB Prodom: P000550; Interferon\_abd; 1.  
 DR SMART: SM00076; Ifabd; 1.  
 KW Antiviral; cytokine.  
 SU SEQUENCE 195 AA; 22160 MW; 60B1FAE39BF034FA CRC64;

Query Match 28.34; Score 246.5; DB 6; Length 195;  
 Best local similarity 39.08; Pred. No. 3, 4e-14;  
 Matches 53; Conserved 28; Mismatches 52; Indels 4; Gaps 2;  
 QY 19 KILMQLNRSN EYTKRMNFDPERIKQIQFQKIDAAITYEMQNIFAIPRODSS 76  
 DB 39 PLAGRN-PLSPHPTGLQPKDFRFGKVRKISQIKAVMSALHMIQVIFSHTERSS 97  
 QY 77 TGMNTEIVENLIANYHQTINKIVLEKLEKEDFTKALMSLHKRYGRLHVKAK 146  
 DB 98 AAMNTTLEFOLCTGLQQLLEDDIAGIGVGGKSDMSMGPILEVAKYHDIHVIKAK 157  
 QY 137 EYSHCAWTVRVEILR 152  
 DB 158 EYSDCAWTVRVEIMR 173

Search completed: May 6, 2003, 09:54:40  
 Job time : 55 secs











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: PRIOR FILING DATE: 2002-02-28
: PRIOR APPLICATION NUMBER: 60/278,950
: PRIOR FILING DATE: 2002-05-10
: PRIOR APPLICATION NUMBER: 60/364,008
: PRIOR FILING DATE: 2002-07-24
: PRIOR APPLICATION NUMBER: 60/411,355
: PRIOR FILING DATE: 2002-09-14
: PRIOR APPLICATION NUMBER: 60/414,984
: PRIOR FILING DATE: 2002-10-02
: PRIOR APPLICATION NUMBER: 60/417,511
: PRIOR FILING DATE: 2002-10-11
: PRIOR APPLICATION NUMBER: 60/420,246
: PRIOR FILING DATE: 2002-10-23
: PRIOR APPLICATION NUMBER: 60/423,023
: PRIOR FILING DATE: 2002-11-05
: PRIOR APPLICATION NUMBER: 60/450,358
: Remaining prior Application data removed - See File Wrapper or PALM.
: NUMBER OF SEQ ID NOS: 858
: SOFTWARE: Patentin Ver. 2.0
: SEQ ID NO: 154
: LENGTH: 166
: TYPE: PRT
: ORGANISM: Homo sapiens
Pct-US02-40892-153

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Query Match 98.5% Score 859; DB 1; Length 166;

Seq ID NO: 154; Accession: U0899; Local No.: 832-86; Matches 164; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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Q1 MSYNIICPGSSNGPCQKLMENRPIPTVRIKRNKPTIPEIPQISSEKQALITY 60
: 1 MSYNIICPGSSNGPCQKLMENRPIPTVRIKRNKPTIPEIPQISSEKQALITY 60
: FILE REFERENCE: p6574pct
: CURRENT FILING DATE: 2002-12-23
: PRIOR FILING DATE: 2002-10-02
: PRIOR APPLICATION NUMBER: 60/417,511
: PRIOR FILING DATE: 2002-12-21
: PRIOR APPLICATION NUMBER: 60/460,000
: PRIOR FILING DATE: 2002-02-28
: PRIOR APPLICATION NUMBER: 60/478,950
: PRIOR FILING DATE: 2002-05-10
: PRIOR APPLICATION NUMBER: 60/498,008
: PRIOR FILING DATE: 2002-07-24
: PRIOR APPLICATION NUMBER: 60/411,355
: PRIOR FILING DATE: 2002-07-16
: PRIOR APPLICATION NUMBER: 60/414,984
: PRIOR FILING DATE: 2002-10-02
: PRIOR APPLICATION NUMBER: 60/417,511
: PRIOR FILING DATE: 2002-10-11
: PRIOR APPLICATION NUMBER: 60/420,246
: PRIOR FILING DATE: 2002-11-05
: PRIOR APPLICATION NUMBER: 60/423,623
: PRIOR FILING DATE: 2002-11-05
: PRIOR APPLICATION NUMBER: 60/450,358
: PRIOR FILING DATE: 2002-07-24
: Remaining prior Application data removed - See File Wrapper or PALM.
Pct-US02-40892-154

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RESULT 11

Sequence: 154; Application: p6574pct040892

GENERAL INFORMATION:

APPLICANT: Human Genome Sciences, Inc.

TITLE OF INVENTION: Albumin Fusion Proteins

FILE REFERENCE: p6574pct

CURRENT FILING DATE: 2002-12-23

PRIOR FILING DATE: 2002-10-02

PRIOR APPLICATION NUMBER: 60/417,511

PRIOR FILING DATE: 2002-12-21

PRIOR APPLICATION NUMBER: 60/460,000

PRIOR FILING DATE: 2002-02-28

PRIOR APPLICATION NUMBER: 60/478,950

PRIOR FILING DATE: 2002-05-10

PRIOR APPLICATION NUMBER: 60/498,008

PRIOR FILING DATE: 2002-07-24

PRIOR APPLICATION NUMBER: 60/411,355

PRIOR FILING DATE: 2002-07-16

PRIOR APPLICATION NUMBER: 60/414,984

PRIOR FILING DATE: 2002-10-02

PRIOR APPLICATION NUMBER: 60/417,511

PRIOR FILING DATE: 2002-10-11

PRIOR APPLICATION NUMBER: 60/420,246

PRIOR FILING DATE: 2002-11-05

PRIOR APPLICATION NUMBER: 60/423,623

PRIOR FILING DATE: 2002-11-05

PRIOR APPLICATION NUMBER: 60/450,358

PRIOR FILING DATE: 2002-07-24

Remaining prior Application data removed - See File Wrapper or PALM.

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: NUMBER OF SEQ ID NOS: 858
: SOFTWARE: Patentin Ver. 2.0
: SEQ ID NO: 154
: LENGTH: 166
: TYPE: PRT
: ORGANISM: Homo sapiens
Pct-US02-40892-154

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Query Match 98.5% Score 859; DB 1; Length 166;

Seq ID NO: 154; Accession: U0899; Local No.: 832-86; Matches 164; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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Q1 MSYNIICPGSSNGPCQKLMENRPIPTVRIKRNKPTIPEIPQISSEKQALITY 60
: 1 MSYNIICPGSSNGPCQKLMENRPIPTVRIKRNKPTIPEIPQISSEKQALITY 60
: FILE REFERENCE: p6574pct
: CURRENT FILING DATE: 2002-12-23
: PRIOR FILING DATE: 2002-10-02
: PRIOR APPLICATION NUMBER: 60/417,511
: PRIOR FILING DATE: 2002-12-21
: PRIOR APPLICATION NUMBER: 60/460,000
: PRIOR FILING DATE: 2002-02-28
: PRIOR APPLICATION NUMBER: 60/478,950
: PRIOR FILING DATE: 2002-05-10
: PRIOR APPLICATION NUMBER: 60/498,008
: PRIOR FILING DATE: 2002-07-24
: PRIOR APPLICATION NUMBER: 60/411,355
: PRIOR FILING DATE: 2002-07-16
: PRIOR APPLICATION NUMBER: 60/414,984
: PRIOR FILING DATE: 2002-10-02
: PRIOR APPLICATION NUMBER: 60/417,511
: PRIOR FILING DATE: 2002-10-11
: PRIOR APPLICATION NUMBER: 60/420,246
: PRIOR FILING DATE: 2002-11-05
: PRIOR APPLICATION NUMBER: 60/423,623
: PRIOR FILING DATE: 2002-11-05
: PRIOR APPLICATION NUMBER: 60/450,358
: PRIOR FILING DATE: 2002-07-24
: Remaining prior Application data removed - See File Wrapper or PALM.
Pct-US02-40892-155

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RESULT 12

Sequence: 155; Application: p6574pct040892

GENERAL INFORMATION:

APPLICANT: Human Genome Sciences, Inc.

TITLE OF INVENTION: Albumin Fusion Proteins

FILE REFERENCE: p6574pct

CURRENT FILING DATE: 2002-12-23

PRIOR FILING DATE: 2002-10-02

PRIOR APPLICATION NUMBER: 60/417,511

PRIOR FILING DATE: 2002-12-21

PRIOR APPLICATION NUMBER: 60/460,000

PRIOR FILING DATE: 2002-02-28

PRIOR APPLICATION NUMBER: 60/478,950

PRIOR FILING DATE: 2002-05-10

PRIOR APPLICATION NUMBER: 60/498,008

PRIOR FILING DATE: 2002-07-24

PRIOR APPLICATION NUMBER: 60/411,355

PRIOR FILING DATE: 2002-07-16

PRIOR APPLICATION NUMBER: 60/414,984

PRIOR FILING DATE: 2002-10-02

PRIOR APPLICATION NUMBER: 60/417,511

PRIOR FILING DATE: 2002-10-11

PRIOR APPLICATION NUMBER: 60/420,246

PRIOR FILING DATE: 2002-11-05

PRIOR APPLICATION NUMBER: 60/423,623

PRIOR FILING DATE: 2002-11-05

PRIOR APPLICATION NUMBER: 60/450,358

PRIOR FILING DATE: 2002-07-24

PRIOR APPLICATION NUMBER: 60/411,355

PRIOR FILING DATE: 2002-07-16

PRIOR APPLICATION NUMBER: 60/414,984

PRIOR FILING DATE: 2002-10-02

PRIOR APPLICATION NUMBER: 60/417,511

PRIOR FILING DATE: 2002-10-11

PRIOR APPLICATION NUMBER: 60/420,246

PRIOR FILING DATE: 2002-11-05

PRIOR APPLICATION NUMBER: 60/423,623

PRIOR FILING DATE: 2002-11-05

PRIOR APPLICATION NUMBER: 60/450,358

PRIOR FILING DATE: 2002-07-24

Remaining prior Application data removed - See File Wrapper or PALM.

Pct-US02-40892-165

Query Match 98.5% Score 859; DB 1; Length 166;

Seq ID NO: 155; Accession: U0899; Local No.: 832-86; Matches 164; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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Q1 MSYNIICPGSSNGPCQKLMENRPIPTVRIKRNKPTIPEIPQISSEKQALITY 60
: 1 MSYNIICPGSSNGPCQKLMENRPIPTVRIKRNKPTIPEIPQISSEKQALITY 60
: FILE REFERENCE: p6574pct
: CURRENT FILING DATE: 2002-12-23
: PRIOR FILING DATE: 2002-10-02
: PRIOR APPLICATION NUMBER: 60/417,511
: PRIOR FILING DATE: 2002-12-21
: PRIOR APPLICATION NUMBER: 60/460,000
: PRIOR FILING DATE: 2002-02-28
: PRIOR APPLICATION NUMBER: 60/478,950
: PRIOR FILING DATE: 2002-05-10
: PRIOR APPLICATION NUMBER: 60/498,008
: PRIOR FILING DATE: 2002-07-24
: PRIOR APPLICATION NUMBER: 60/411,355
: PRIOR FILING DATE: 2002-07-16
: PRIOR APPLICATION NUMBER: 60/414,984
: PRIOR FILING DATE: 2002-10-02
: PRIOR APPLICATION NUMBER: 60/417,511
: PRIOR FILING DATE: 2002-10-11
: PRIOR APPLICATION NUMBER: 60/420,246
: PRIOR FILING DATE: 2002-11-05
: PRIOR APPLICATION NUMBER: 60/423,623
: PRIOR FILING DATE: 2002-11-05
: PRIOR APPLICATION NUMBER: 60/450,358
: PRIOR FILING DATE: 2002-07-24
: Remaining prior Application data removed - See File Wrapper or PALM.
Pct-US02-40892-165

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14b	61	EMIONTFAHFPODSSSGMHTIYENLANYBZ;NH;FTVLEHLKEDPFRKUMSSL	120
14c	121	HLKQVY;ZELIYKAKESH;AMFLVWEI;LRNFYRINRE;GYLRN	166
14d	121	HLKQVY;ZELIYKAKESH;AMFLVWEI;LRNFYRINRE;GYLRN	166

[illegible]

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1 PRIOR APPLICATION NUMBER: 60/480,000
2 PRIOR FILING DATE: 2002-02-28
3 PRIOR APPLICATION NUMBER: 60/478,950
4 PRIOR FILING DATE: 2002-05-10
5 PRIOR APPLICATION NUMBER: 60/498,008
6 PRIOR FILING DATE: 2002-07-24
7 PRIOR APPLICATION NUMBER: 60/411,355
8 PRIOR FILING DATE: 2002-09-18
9 PRIOR APPLICATION NUMBER: 60/414,984
10 PRIOR FILING DATE: 2002-10-02
11 PRIOR APPLICATION NUMBER: 60/417,611
12 PRIOR FILING DATE: 2002-10-11
13 PRIOR APPLICATION NUMBER: 60/420,246
14 PRIOR FILING DATE: 2002-10-23
15 PRIOR APPLICATION NUMBER: 60/424,623
16 PRIOR FILING DATE: 2002-11-05
17 PRIOR APPLICATION NUMBER: 60/450,358
18 PRIOR FILING DATE: 2002-01-24
19 Remaining Prior Application data removed - See File Wrapper or PAM
20 NUMBER OF SEQ ID NOS: 858
21 SOFTWARE: PatentIn Ver. 2.0
22 SEQ ID NO 647
23 LENGTH: 166
24 TYPE: prt
25 ORGANISM: Homo sapiens
PCT-0502-40892-647

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Matches 164: Conservative 0: Mismatches 2: Indels 0: Gaps
OY 1 MSYNIIEFIDRSSNPFQOKLWQINQPIEYVPIKVPWNPDPDFIKQIQPEKHAATLY 60
Db 1 MSYNIIEFIDRSSNPFQOKLWQINQPIEYVPIKVPWNPDPDFIKQIQPEKHAATLY 60
OY 61 EMLONFAIFRQSSSTGWNFTIVENLVANYHQINHLKTVLEKLEKEDPTKVALMSSTL 120
Db 61 EMLONFAIFRQSSSTGWNFTIVENLVANYHQINHLKTVLEKLEKEDPTKVALMSSTL 120
OY 121 HLEPVSCTTHYIAKAFYSHCAMTIVFVLELLEPVELECELYEYVETLYEIN 166
Db 121 HLEPVSCTTHYIAKAFYSHCAMTIVFVLELLEPVELECELYEYVETLYEIN 166

RESULT 15
FC1-0502-40892-648
: Sequence 648, Application FC1/HS0240892
: GENERAL INFORMATION:
: APPLICANT: Human Genome Sciences, Inc.
: TITLE OF INVENTOR: A. Damin Fuston et al.
: FILE REFERENCE: PF574PCT
: CURRENT APPLICATION NUMBER: 001-0502-40892
: CURRENT FILING DATE: 2002-12-24
: PRIOR APPLICATION NUMBER: 00-341,811
: PRIOR FILING DATE: 2001-12-21
: PRIOR APPLICATION NUMBER: 60/460,000
: PRIOR FILING DATE: 2002-02-28
: PRIOR APPLICATION NUMBER: 00/478,950
: PRIOR FILING DATE: 2002-05-10
: PRIOR APPLICATION NUMBER: 00/498,008
: PRIOR FILING DATE: 2002-07-24
: PRIOR APPLICATION NUMBER: 60/411,455
: PRIOR FILING DATE: 2002-09-18
: PRIOR APPLICATION NUMBER: 60/414,984
: PRIOR FILING DATE: 2002-10-02
: PRIOR APPLICATION NUMBER: 60/417,611
: PRIOR FILING DATE: 2002-10-11
: PRIOR APPLICATION NUMBER: 60/426,456
: PRIOR FILING DATE: 2002-10-24
: PRIOR APPLICATION NUMBER: 00/424,623
: PRIOR FILING DATE: 2002-11-05
: PRIOR APPLICATION NUMBER: 60/450,458
: PRIOR FILING DATE: 2002-01-24

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Remaining Prior Application data removed - See File Wrapper or PALM.  
NUMBER OF SEQ ID NOS: 858  
SOFTWARE: Patent In Ver. 2.0  
SEQ ID NO 648  
LENGTH: 166  
TYPE: PRT  
ORGANISM: Homo sapiens  
PCT-DS02-40842-648

Query Match 98.5%; Score 859; DB 1; Length 166;  
Best Local Similarity 98.8%; Fied. No. 6.8e-86;  
Matches 164; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MSYNLLGFTQSSNFCCKLLWLMGSELECKDKSMFCDEETKOLQFQREDAALITY 60  
DB 1 MSYNLLGFTQSSNFCCKLLWLMGSELECKDKSMFCDEETKOLQFQREDAALITY 60  
QY 61 EMLQNTFAIFRODSSSTGWNETIVENL LANYVHQINHLKTYLEERLEKEDFTRGALMSSL 120  
DB 61 EMLQNTFAIFRODSSSTGWNETIVENL LANYVHQINHLKTYLEERLEKEDFTRGALMSSL 120  
QY 121 HKRYVYKRLHYLAKKYSHCAMTIVVEILRNFRINRLTGYLRN 166  
DB 121 HKRYVYKRLHYLAKKYSHCAMTIVVEILRNFRINRLTGYLRN 166

Search completed: May 6, 2003, 10:02:56  
Job time : 56.5 secs



GenoPro version 5.1.4 P5\_4578  
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OM protein - protein search, using sw model

Run on: May 6, 2003, 09:51:23, Search time 11.5 seconds

(without alignments)  
424.713 Million coll updates/sec

Title: US-09-832-658A-26

Percent score: 86.7

Sequence: 1 MAYAALGAIQASSNFGQKTL PVELLPNFPYPIPTVLPN 166

Scoring table: BLOSUM62 Gapop 10.0, Gapext 0.5

Searched: 252574 seqs, 20422922 residues

Total number of hits satisfying chosen parameters: 262574

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length DB	ID	Description
1	829	95.6	166	US-09-397-992A-7	Sequence 7, Appl 1
2	829	95.6	166	5514567-4	Patent No. 5514567
3	829	95.6	187	US-09-206-003A-9	Sequence 9, Appl 1
4	829	95.6	187	US-08-406-030A-30	Sequence 30, Appl 1
5	829	95.6	187	US-09-202-122-9	Sequence 9, Appl 1
6	829	95.6	187	US-09-206-935-7	Sequence 7, Appl 1
7	829	95.6	187	US-09-206-935-7	Sequence 7, Appl 1
8	829	95.6	187	US-09-487-792-4	Sequence 4, Appl 1
9	829	95.6	187	5514567-1	Patent No. 5514567
10	829	95.6	415	US-09-215-212-14	Sequence 14, Appl 1
11	827	95.4	166	US-08-477-310A-1	Sequence 1, Appl 1
12	824	95.0	166	US-08-213-448-1	Sequence 1, Appl 1
13	824	95.0	166	US-08-912-759-1	Sequence 1, Appl 1
14	824	95.0	166	US-08-912-759-1	Sequence 1, Appl 1
15	824	95.0	187	US-08-912-758-3	Sequence 3, Appl 1
16	822	94.8	166	US-09-487-792-21	Sequence 21, Appl 1
17	821	94.7	187	US-08-026-758-23	Sequence 23, Appl 1
18	820	94.6	166	US-09-331-250-2	Sequence 2, Appl 1
19	812	93.7	187	5510472-6	Patent No. 5510472
20	779	89.9	187	US-08-362-453-16	Sequence 16, Appl 1
21	776	89.5	166	US-08-026-758-21	Sequence 21, Appl 1
22	543	62.6	187	US-08-026-758-25	Sequence 25, Appl 1
23	460.5	53.1	186	US-08-026-758-25	Sequence 25, Appl 1
24	460.5	53.1	186	US-08-026-758-25	Sequence 25, Appl 1
25	460.5	49.2	186	US-08-026-758-25	Sequence 25, Appl 1
26	408.5	47.1	186	US-08-026-758-24	Sequence 24, Appl 1
27	362	41.8	186	US-08-026-758-23	Sequence 23, Appl 1

## ALIGNMENTS

28	341.5	39.4	156	4	US-09-487-792-20	Sequence 20, Appl 1
29	271	31.4	238	4	US-09-487-792-3	Sequence 3, Appl 1
30	270	31.3	245	4	US-09-487-792-6	Sequence 6, Appl 1
31	260	30.0	166	3	US-08-819-238A-13	Sequence 13, Appl 1
32	260	30.0	166	4	US-09-379-434-13	Sequence 13, Appl 1
33	257	29.5	166	3	US-08-819-238A-1	Sequence 1, Appl 1
34	257	29.6	166	4	US-09-379-434-1	Sequence 1, Appl 1
35	257	29.6	166	4	US-08-249-671A-9	Sequence 9, Appl 1
36	257	29.6	195	4	US-09-206-904A-8	Sequence 8, Appl 1
37	257	29.6	195	4	US-09-206-904A-8	Sequence 8, Appl 1
38	257	29.6	195	4	US-09-206-904A-8	Sequence 8, Appl 1
39	257	29.6	195	4	US-09-206-904A-8	Sequence 8, Appl 1
40	254.5	29.4	195	6	US-09-487-792-9	Sequence 9, Appl 1
41	254.5	29.4	199	6	5510472-9	Patent No. 5510472
42	254	29.3	162	3	US-09-206-264-3	Sequence 3, Appl 1
43	253	29.2	172	1	US-08-443-885A-2	Sequence 2, Appl 1
44	253	29.2	172	1	US-08-443-885A-2	Sequence 2, Appl 1
45	252	29.2	172	2	US-09-531-328-2	Sequence 2, Appl 1

  

RESULT 1	US-09-397-992A-7
Sequence 7, Application US/09397992A	
Patent No. 6329175	
GENERAL INFORMATION:	
APPLICANT: Conklin, Darrell	
APPLICANT: Grant, Francis J.	
APPLICANT: Rixon, Mark W.	
APPLICANT: Rindsoogel, Wayne	
TITLE OF INVENTION: Interferon-epsilon	
FILE REFERENCE: 93/46	
INTERNET APP. NO. 93/000000	
CURRENT FILING DATE: 1999-07-16	
PRIOR APPLICATION NUMBER: 60/101,012	
PRIOR FILING DATE: 1998-09-18	
ERISE APPLICANT NUMBER: 60/118,578	
PRIOR FILING DATE: 1999-02-05	
PRIOR APPLICATION NUMBER: 60/142,766	
PRIOR FILING DATE: 1999-07-08	
NUMBER OF SEQ ID NOS: 33	
SOFTWARE: FastSP for Windows Version 3.0	
SEQ ID NO 7	
LENGTH: 166	
TYPE: PRT	
ORGANISM: Homo sapiens	
US-09-397-992A-7	
Query Match	95.6%
Best local similarity	95.8%
Matches	159
Conservative	1
Mismatches	6
Gaps	0
Indels	0
Score	829
DB ID	4
Length	166
Patent No.	5514567-4
APPLICANT: Grant, Francis J.	
APPLICANT: Rixon, Mark W.	
APPLICANT: Rindsoogel, Wayne	
TITLE OF INVENTION: DNA AND RECOMBINANT PLASMID	

```

1 NUMBER 4 SEQUENCE TEST: 5
2 CURRENT APPLICATION DATA:
3 FILING DATE: 06 MAR 1995
4 PRIOR APPLICATION DATA:
5 APPLICATION NUMBER: 389,722
6 FILING DATE: 18 JUN 1982
7 APPLICATION NUMBER: 201,459
8 FILING DATE: 27 OCT 1980
9 SEQ ID NO: 1
10 LENGTH: 166
11 551456.7.4
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1 GENERAL INFORMATION:
2 APPLICANT: Treco, Douglas A.
3 APPLICANT: Heurtean, Michael W.
4 APPLICANT: Haque, Brian M.
5 APPLICANT: Seiden, Richard F.
6 TITLE OF INVENTION: Protein Production and Delivery
7 NUMBER OF SEQUENCES: 30
8 CORRESPONDENCE ADDRESS:
9 ADDRESSER: Hamilton, Brook, Smith & Reynolds, P.C.,
10 STREET: Two Millia Drive
11 CITY: Lexington
12 STATE: Massachusetts
13 COUNTRY: USA
14 ZIP: 02173
15
16 COMPUTER READABLE FORM:
17 MEDIUM TYPE: floppy disk
18 COMPUTER: IBM PC compatible
19 OPERATING SYSTEM: PC DOS/MS DOS
20 SOFTWARE: Patent In Release #1.0, Version #1.40
21
22 CURRENT APPLICATION DATA:
23 APPLICATION NUMBER: US/08/406,030A
24 FILING DATE: 17 MAR-1996
25 CLASSIFICATION: 435
26
27 PRIOR APPLICATION DATA:
28 APPLICATION NUMBER: US 58/243,391
29 FILING DATE: 13-MAY-1994
30
31 APPLICATION DATA:
32 APPLICATION NUMBER: US 07/087,586
33 FILING DATE: 03-DEC-1992
34
35 PRIOR APPLICATION DATA:
36 APPLICATION NUMBER: US 07/911,533
37 FILING DATE: 10-JUN-1992
38
39 PRIOR APPLICATION DATA:
40 APPLICATION NUMBER: US 07/787,840
41 FILING DATE: 05-NOV-1991
42
43 APPLICATION DATA:
44 APPLICATION NUMBER: US 07/789,188
45 FILING DATE: 05-NOV-1991
46
47 PRIOR APPLICATION DATA:
48 APPLICATION NUMBER: EP1,069,71704
49 FILING DATE: 02-DEC-1993
50
51 APPLICATION DATA:
52 APPLICATION NUMBER: PCT/HUS/2/09627
53 FILING DATE: 05-NOV-1992
54
55 ATTORNEY/AGENT INFORMATION:
56 NAME: Graham, Patricia
57 REGISTRATION NUMBER: 42,427
58 REFERENCE/EXCISE NUMBER: TKI95-01
59 TELECOMMUNICATION INFORMATION:
60 TELEPHONE: (617) 861-6240
61 TELEFAX: (617) 861-9540
62
63 INFORMATION FOR SEQ ID NO: 40:
64
65 SEQUENCE CHARACTERISTICS:
66 LENGTH: 187 amino acids
67 TYPE: amino acid
68 TOPOLOGY: linear
69
70 MOLECULE TYPE: protein
71 DS-08-406-030A-30
72
73 Query Match: 95.6% Score 829 DB 4: Length 187:
74 Most Local Similarity: 95.8%, Fred. No. 6, 20-84:
75 Matches 159: Conservative 1: Mismatches 6: Indels 0: Gaps 0:
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77 1 MAYAALWLNQSSNIGYGLFWGKSGLEYLKKEMNDIPETFGSLSZSPCHDAATLY 60
78 ILLIIILIIPIISINIGYSLIMNIGESLEYTKIENPDIIEIKDAGECEHAAVALYY 81
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80 22 MSYNLGITGFSSINIGYSLIMNIGESLEYTKIENPDIIEIKDAGECEHAAVALYY 81
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82 EMLQNIFAFPDSSSTFNFTIVNI LANYRQINHI KTVLFPGFKDFEADAMSTL 120
83 ILLIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII 141
84 EMLQNIFAFPDSSSTFNFTIVNILLANYRHGINHLKIVLEELKEKNIDPEALMSTL 141
85
86 121 HEFYVDETHVIAEYSIRAWLVVEVLLRNRYRNRDLCYLRN 166
87 ILLIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII

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DB 142 HIKRYVGRILHYLAKKEYSHCAMTIVPEVETIPNPFYINNTGYEN 187

RESULT 5

US-09-202-122-9  
Sequence 4, Application US/09/202122

Patent No. 6299869

GENERAL INFORMATION:

APPLICANT: Chen, Jian

APPLICANT: Gotsdski, Paul

APPLICANT: Wood, William I.

APPLICANT: Zhang, Dong-Xiao

TITLE OF INVENTION: HUMAN INTERFERON-EPSILON: A TYPE I INTERFERON

FILE REFERENCE: P122482 (filed)

CURRENT APPLICATION NUMBER: 02/09/2002, 122

CURRENT FILING DATE: 1999-03-04

PRIOR FILING DATE: 1998-12-08

NUMBER OF SEQ ID NOS: 12

SEQ ID NO 9

LENGTH: 187

TYPE: PRT

ORGANISM: Homo sapiens

US-09-202-122-9

Query Match

Host Local Similarity 95.6%; Score 829; DB 4; Length 187;

Matches 159; Conservative 1; Mismatches 6; Indels 0; Gaps 0;

DB 1 MAYAALACAGASSNPGQCKILMOLNGRLEVCILKQNMNFIPEILKQLOQFQKHAALITY 60

DB 22 MSYMLDPELOGSSNPGQCKILMOLNGRLEVCILKQNMNFIPEILKQLOQFQKHAALITY 81

DB 61 EMLONFAIFROGSSSTGWNFTIVFNLANVYHGINIKTVLEFEETFEETGALMSSL 120

DB 82 EMLONFAIFROGSSSTGWNFTIVFNLANVYHGINIKTVLEFEETFEETGALMSSL 141

DB 121 HIKRYVGRILHYLAKKEYSHCAMTIVPEVETIPNPFYINNTGYEN 165

DB 142 HIKRYVGRILHYLAKKEYSHCAMTIVPEVETIPNPFYINNTGYEN 187

RESULT 6

US-09-206-945-7  
Sequence 7, Application US/09/206935

Patent No. 6299877

GENERAL INFORMATION:

APPLICANT: Chen, Jian

APPLICANT: Gotsdski, Paul

APPLICANT: Wood, William I.

TITLE OF INVENTION: NOVEL TYPE I INTERFERONS

FILE REFERENCE: 11669, 500506

CURRENT APPLICATION NUMBER: 09/09/2006, 935

CURRENT FILING DATE: 1998-12-07

EARLIER APPLICATION NUMBER: 60/084, 045

EARLIER FILING DATE: 1998-05-04

NUMBER OF SEQ ID NOS: 24

SOFTWARE: Patent In Ver. 2.0

SEQ ID NO 7

LENGTH: 187

TYPE: PRT

ORGANISM: Homo sapiens

US-09-206-945-7

Query Match

Host Local Similarity 95.6%; Score 829; DB 4; Length 187;

Matches 159; Conservative 1; Mismatches 6; Indels 0; Gaps 0;

DB 1 MAYAALACAGASSNPGQCKILMOLNGRLEVCILKQNMNFIPEILKQLOQFQKHAALITY 60

DB 22 MSYMLDPELOGSSNPGQCKILMOLNGRLEVCILKQNMNFIPEILKQLOQFQKHAALITY 81

DB 61 EMLONFAIFROGSSSTGWNFTIVFNLANVYHGINIKTVLEFEETFEETGALMSSL 120

DB 82 EMLONFAIFROGSSSTGWNFTIVFNLANVYHGINIKTVLEFEETFEETGALMSSL 141

DB 121 HIKRYVGRILHYLAKKEYSHCAMTIVPEVETIPNPFYINNTGYEN 166

DB 142 HIKRYVGRILHYLAKKEYSHCAMTIVPEVETIPNPFYINNTGYEN 187

RESULT 7

US-09-206-936-7  
Sequence 7, Application US/09/206936A

Patent No. 6300475

GENERAL INFORMATION:

APPLICANT: Chen, Jian

APPLICANT: Wood, William I.

TITLE OF INVENTION: No. 6300475el Interferon

FILE REFERENCE: P122481

CURRENT APPLICATION NUMBER: 02/09/2006, 940A

CURRENT FILING DATE: 1999-12-07

EARLIER APPLICATION NUMBER: 03/09/067, 897

EARLIER FILING DATE: 1998-12-08

NUMBER OF SEQ ID NOS: 22

SEQ ID NO 7

LENGTH: 187

TYPE: PRT

ORGANISM: Homo sapiens

US-09-206-936-7

Query Match

Host Local Similarity 95.6%; Score 829; DB 4; Length 187;

Matches 159; Conservative 1; Mismatches 6; Indels 0; Gaps 0;

DB 1 MAYAALACAGASSNPGQCKILMOLNGRLEVCILKQNMNFIPEILKQLOQFQKHAALITY 60

DB 22 MSYMLDPELOGSSNPGQCKILMOLNGRLEVCILKQNMNFIPEILKQLOQFQKHAALITY 81

DB 61 EMLONFAIFROGSSSTGWNFTIVFNLANVYHGINIKTVLEFEETFEETGALMSSL 120

DB 82 EMLONFAIFROGSSSTGWNFTIVFNLANVYHGINIKTVLEFEETFEETGALMSSL 141

DB 121 HIKRYVGRILHYLAKKEYSHCAMTIVPEVETIPNPFYINNTGYEN 166

DB 142 HIKRYVGRILHYLAKKEYSHCAMTIVPEVETIPNPFYINNTGYEN 187

RESULT 8

US-09-487-792-4  
Sequence 4, Application US/09/487792

Patent No. 6433145

GENERAL INFORMATION:

APPLICANT: Human Genome Sciences, Inc.

TITLE OF INVENTION: Keratinocyte derived interferon

FILE REFERENCE: 11482P1

CURRENT APPLICATION NUMBER: 02/09/487, 792

CURRENT FILING DATE: 2000-01-20

EARLIER APPLICATION NUMBER: 60/093, 643

EARLIER FILING DATE: 1998-07-21

EARLIER APPLICATION NUMBER: 03/09/144, 24

EARLIER FILING DATE: 1999-07-21

NUMBER OF SEQ ID NOS: 54

SOFTWARE: Patent In Ver. 2.1

SEQ ID NO 4

LENGTH: 187

TYPE: PRT

ORGANISM: Homo sapiens

US-09-487-792-4

Query Match

Host Local Similarity 95.6%; Score 829; DB 4; Length 187;

Matches 159; Conservative 1; Mismatches 6; Indels 0; Gaps 0;

DB 1 MAYAALACAGASSNPGQCKILMOLNGRLEVCILKQNMNFIPEILKQLOQFQKHAALITY 60

[illegible][illegible]

DB 61 EMLQNTFAIFRQDSSSTGWNITVENLAVNYHOINLKTIVIEEKLIEEPFRGLMSSL 120  
121 HLEKRYGRIILHLAKKEYSHCAMTIVRVILNFKYRINLTGYLNN 166  
121 HLEKRYGRIILHLAKKEYSHCAMTIVRVILNFKYRINLTGYLNN 166

## RESULT 12

US-08-213-448-1

Sequence 1, Application US/08213448  
Patent No. 6545723  
GENERAL INFORMATION:  
APPLICANT: Goetz, Susan E.  
APPLICANT: Cate, Richard L.  
APPLICANT: Pepinsky, Blake R.  
APPLICANT: Chow, Pingchang E.  
TITLE OF INVENTION: No. 5545723e1 Mutlins of IFN Beta  
NUMBER OF SEQUENCES: 4  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: James F. Haley, Jr.  
STREET: Fish & Neave, 1251 Avenue of the Americas  
CITY: New York  
STATE: New York  
COUNTRY: USA  
ZIP: 10020-1104  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/213-448  
FILING DATE:  
CLASSIFICATION: 424  
ATTORNEY/AGENT INFORMATION:  
NAME: Haley Jr., James F.  
REGISTRATION NUMBER: 27,794  
REFERENCE/DOCKET NUMBER: B179  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (212) 596-9090  
TELEFAX: (212) 596-9090  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 166 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHEICAL: NO  
ANTI-SENSE: NO  
US-08-213-448-1

Query Match 95.0% Score 824, DB 1, Length 166  
Post local Similarity 95.2%, Fnd. No. 1, 9e-82  
Matches 158; Conservative 1; Mismatches 7; Indels 0; Gaps 0

DB 1 MAYALDAVQASSNPGQKILNINLWYVYVPPQATITPSTQEPQATTAATTV 60  
1 MSYNLGPIQPSSTNGQKILNINLWYVYVPPQATITPSTQEPQATTAATTV 60  
61 EMLQNTFAIFRQDSSSTGWNITVENLAVNYHOINLKTIVIEEKLIEEPFRGLMSSL 120  
61 EMLQNTFAIFRQDSSSTGWNITVENLAVNYHOINLKTIVIEEKLIEEPFRGLMSSL 120  
121 HLEKRYGRIILHLAKKEYSHCAMTIVRVILNFKYRINLTGYLNN 166  
121 HLEKRYGRIILHLAKKEYSHCAMTIVRVILNFKYRINLTGYLNN 166

RESULT 13  
US-08-912-768-1  
Sequence 1, Application US/08912768

Patent No. 6127332  
GENERAL INFORMATION:  
APPLICANT: Goetz, Susan E.  
APPLICANT: Cate, Richard L.  
APPLICANT: Pepinsky, Blake R.  
APPLICANT: Chow, Pingchang E.  
TITLE OF INVENTION: No. 6127332e1 Mutlins of IFN Beta  
NUMBER OF SEQUENCES: 5  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: James F. Haley, Jr.  
STREET: Fish & Neave, 1251 Avenue of the Americas  
CITY: New York  
STATE: New York  
COUNTRY: USA  
ZIP: 10020-1104  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/912-768  
FILING DATE:  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/475,774  
FILING DATE:  
ATTORNEY/AGENT INFORMATION:  
NAME: Haley Jr., James F.  
REGISTRATION NUMBER: 27,794  
REFERENCE/DOCKET NUMBER: B179  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (212) 596-9090  
TELEFAX: (212) 596-9090  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 166 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
HYPOTHEICAL: NO  
ANTI-SENSE: NO  
US-08-912-768-1

Query Match 95.0% Score 824, DB 3, Length 166  
Post local Similarity 95.2%, Fnd. No. 1, 9e-82  
Matches 158; Conservative 1; Mismatches 7; Indels 0; Gaps 0

DB 1 MAYALDAVQASSNPGQKILNINLWYVYVPPQATITPSTQEPQATTAATTV 60  
1 MSYNLGPIQPSSTNGQKILNINLWYVYVPPQATITPSTQEPQATTAATTV 60  
61 EMLQNTFAIFRQDSSSTGWNITVENLAVNYHOINLKTIVIEEKLIEEPFRGLMSSL 120  
61 EMLQNTFAIFRQDSSSTGWNITVENLAVNYHOINLKTIVIEEKLIEEPFRGLMSSL 120  
121 HLEKRYGRIILHLAKKEYSHCAMTIVRVILNFKYRINLTGYLNN 166  
121 HLEKRYGRIILHLAKKEYSHCAMTIVRVILNFKYRINLTGYLNN 166

RESULT 14  
PCT-US95-03206-1  
Sequence 1, Application PCT/US9503206  
GENERAL INFORMATION:  
APPLICANT: Biogen, Inc.  
APPLICANT: Goetz, Susan E.  
APPLICANT: Cate, Richard L.  
APPLICANT: Pepinsky, Blake R.  
APPLICANT: Chow, Pingchang E.  
TITLE OF INVENTION: Novel Mutlins of IFN-Beta  
NUMBER OF SEQUENCES: 4



GenCore version 5.1.4\_P5\_4578  
Copyright (c) 1993 - 2003 CompuGen Ltd.

OM protein - protein search, using SW model

Run on: May 6, 2003, 09:54:49 : Search time 15.5 seconds  
(Without alignments)

924,103 Million cell updates/sec

Title: US-09-832-658A-26

Percent score: 867

Sequence: 1 MAYAALGALGASSNFCQOKI

Scoring table: BLOSUM62

Gapop 10.0, Gapext 0.5

Scored: 32625 seqs, 8628685 residues

Total number of hits satisfying chosen parameters: 32625

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length DB	ID	Description
1	842	97.1	166	US-09-832-658-24	Sequence 24, Appl
2	829	95.6	166	US-09-832-658-24	Sequence 24, Appl
3	829	95.6	166	US-09-832-658-24	Sequence 24, Appl
4	829	95.6	166	US-09-832-658-24	Sequence 24, Appl
5	829	95.6	166	US-09-832-658-24	Sequence 24, Appl
6	829	95.6	166	US-09-832-658-24	Sequence 24, Appl
7	829	95.6	166	US-09-832-658-24	Sequence 24, Appl
8	829	95.6	166	US-09-832-658-24	Sequence 24, Appl
9	829	95.6	166	US-09-832-658-24	Sequence 24, Appl
10	829	95.6	166	US-09-832-658-24	Sequence 24, Appl
11	829	95.6	166	US-09-832-658-24	Sequence 24, Appl
12	829	95.6	166	US-09-832-658-24	Sequence 24, Appl
13	829	95.6	166	US-09-832-658-24	Sequence 24, Appl
14	829	95.6	166	US-09-832-658-24	Sequence 24, Appl
15	829	95.6	166	US-09-832-658-24	Sequence 24, Appl
16	829	95.6	166	US-09-832-658-24	Sequence 24, Appl
17	829	95.6	166	US-09-832-658-24	Sequence 24, Appl
18	829	95.6	166	US-09-832-658-24	Sequence 24, Appl
19	829	95.6	166	US-09-832-658-24	Sequence 24, Appl

20	333	38.4	455	10	US-09-756-282A-20	Sequence 20, Appl
21	257	29.6	172	10	US-09-977-044-21	Sequence 21, Appl
22	257	29.6	172	10	US-09-977-044-21	Sequence 21, Appl
23	257	29.6	172	10	US-09-977-044-21	Sequence 21, Appl
24	257	29.6	172	10	US-09-977-044-21	Sequence 21, Appl
25	257	29.6	172	10	US-09-977-044-21	Sequence 21, Appl
26	257	29.6	172	10	US-09-977-044-21	Sequence 21, Appl
27	257	29.6	172	10	US-09-977-044-21	Sequence 21, Appl
28	257	29.6	172	10	US-09-977-044-21	Sequence 21, Appl
29	257	29.6	172	10	US-09-977-044-21	Sequence 21, Appl
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32	257	29.6	172	10	US-09-977-044-21	Sequence 21, Appl
33	257	29.6	172	10	US-09-977-044-21	Sequence 21, Appl
34	257	29.6	172	10	US-09-977-044-21	Sequence 21, Appl
35	257	29.6	172	10	US-09-977-044-21	Sequence 21, Appl
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42	257	29.6	172	10	US-09-977-044-21	Sequence 21, Appl
43	257	29.6	172	10	US-09-977-044-21	Sequence 21, Appl
44	257	29.6	172	10	US-09-977-044-21	Sequence 21, Appl
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1	US-09-832-658-24	Sequence 24, Appl
2	US-09-832-658-24	Sequence 24, Appl
3	US-09-832-658-24	Sequence 24, Appl
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8	US-09-832-658-24	Sequence 24, Appl
9	US-09-832-658-24	Sequence 24, Appl
10	US-09-832-658-24	Sequence 24, Appl
11	US-09-832-658-24	Sequence 24, Appl
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16	US-09-832-658-24	Sequence 24, Appl
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18	US-09-832-658-24	Sequence 24, Appl
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31	US-09-832-658-24	Sequence 24, Appl
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38	US-09-832-658-24	Sequence 24, Appl
39	US-09-832-658-24	Sequence 24, Appl
40	US-09-832-658-24	Sequence 24, Appl
41	US-09-832-658-24	Sequence 24, Appl
42	US-09-832-658-24	Sequence 24, Appl
43	US-09-832-658-24	Sequence 24, Appl
44	US-09-832-658-24	Sequence 24, Appl
45	US-09-832-658-24	Sequence 24, Appl

DB 121 BLKPYGRLHLYLAKAKYSHCAWTLVPEVLLPNVEFINPLTLYLQKN 166

RESULT 2

Sequence 2, Application US/09/1843

Publication No. US200201562A1

GENERAL INFORMATION:

APPLICANT: Oshida, Hiroshi

APPLICANT: Oshida, Hiroshi

APPLICANT: KIDSWOOD, Wayne

TITLE OF INVENTION: Information position

FILE REFERENCE: 98 4601

CURRENT FILING DATE: 2001-10-04

PRIOR FILING DATE: 1998-09-18

PRIOR APPLICATION NUMBER: 60/118,578

PRIOR FILING DATE: 1999-02-05

PRIOR APPLICATION NUMBER: 60/142,766

PRIOR FILING DATE: 1999-07-08

PRIOR APPLICATION NUMBER: 60/597,992

PRIOR FILING DATE: 1999-09-16

NUMBER OF SEQ ID NOS: 33

SOFTWARE: FASTSEQ FOR WINDOWS Version 4.0

SEQ ID NO: 7

LENGTH: 166

TYPE: PRT

ORGANISM: Homo sapiens

US-09-832-658-2

Query Match

Best Local Similarity 95.8%

Matches 159

Conservative 1

Mismatches 6

Indels 0

Gaps 0

Length 166

Score 829

Pred. No. 1,76-76

DB 9

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

Matches 159

Conservative 1

Mismatches 6

Indels 0

Gaps 0

Length 166

Score 829

Pred. No. 1,76-76

DB 9

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

Gap 0

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CURRENT FILING DATE: 2002-03-19
PRIOR APPLICATION NUMBER: US 60/245,645
PRIOR FILING DATE: 2000-11-02
NUMBER OF SEQ ID NOS: 39
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 2
LENGTH: 187
TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
NAME KEY:
LOCATION: (1)...(21)
FEATURE:
NAME KEY: CHAIN
LOCATION: (22)
US-10-004-201-2

Query Match
Host Local Similarity 95.8%, Score 829, DB 9, Length 187
Matches 159, Conservative 1, Mismatches 6, Gaps 0

1 MAYAALGAGASSNFQCKLWLNQPLVYCEKPMNPEPEIKQLQCFKQKRAALTY 60
2 MSYNIHQFQSSNFQCKLWLNQPLVYCEKPMNPEPEIKQLQCFKQKRAALTY 81
3 EMLQNTFAIFPQSSSTGNNETIVENLANYVHQINHLKTVLEKLEKCFTRKLMSSL 120
4 EMLQNTFAIFPQSSSTGNNETIVENLANYVHQINHLKTVLEKLEKCFTRKLMSSL 141
5 EMLQNTFAIFPQSSSTGNNETIVENLANYVHQINHLKTVLEKLEKCFTRKLMSSL 166
6 EMLQNTFAIFPQSSSTGNNETIVENLANYVHQINHLKTVLEKLEKCFTRKLMSSL 187

RESULT 6
US-09-919-622A-9
Sequence 9, Application US/09919622A
Patent No. US20020172660A1
GENERAL INFO: PMATCH
APPLICANT: Chen, Jian
APPLICANT: Godowski, Paul
APPLICANT: Wood, William F.
APPLICANT: Zhang, Dong-Xiao
TITLE OF INVENTION: HUMAN INTERFERON RECEPTOR A TYPE 1 INTERFERON
FILE REFERENCE: P12249231 (ref:JG0004)
CURRENT FILING DATE: 2001-07-30
PRIOR APPLICATION NUMBER: US 09/229122
PRIOR FILING DATE: 1999-03-04
PRIOR APPLICATION NUMBER: 09/229122
PRIOR FILING DATE: 1999-12-04
NUMBER OF SEQ ID NOS: 13
SEQ ID NO 9
LENGTH: 187
TYPE: PRT
ORGANISM: Homo sapiens
US-09-919-622A-9

Query Match
Host Local Similarity 95.8%, Score 829, DB 9, Length 187
Matches 159, Conservative 1, Mismatches 6, Gaps 0

1 MAYAALGAGASSNFQCKLWLNQPLVYCEKPMNPEPEIKQLQCFKQKRAALTY 60
2 MSYNIHQFQSSNFQCKLWLNQPLVYCEKPMNPEPEIKQLQCFKQKRAALTY 81
3 EMLQNTFAIFPQSSSTGNNETIVENLANYVHQINHLKTVLEKLEKCFTRKLMSSL 120
4 EMLQNTFAIFPQSSSTGNNETIVENLANYVHQINHLKTVLEKLEKCFTRKLMSSL 141
5 EMLQNTFAIFPQSSSTGNNETIVENLANYVHQINHLKTVLEKLEKCFTRKLMSSL 166
6 EMLQNTFAIFPQSSSTGNNETIVENLANYVHQINHLKTVLEKLEKCFTRKLMSSL 187

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RESULT 7
US-09-788-552-1
Sequence 2, Application US/09788552
Patent No. US20020076399A1
GENERAL INFORMATION:
APPLICANT: Braun, Serge
TITLE OF INVENTION: Treatment of Immune Diseases
FILE REFERENCE: 032751-053
CURRENT FILING DATE: 2001-08-23
PRIOR APPLICATION NUMBER: EP 00 44 0653.7
PRIOR FILING DATE: 2000-02-23
FILE REFERENCE: 032746-089
PRIOR APPLICATION NUMBER: EP 00 44 0653.7
PRIOR FILING DATE: 2000-11-07
NUMBER OF SEQ ID NOS: 3
SOFTWARE: PatentIn version 3.1
SEQ ID NO 1
LENGTH: 187
TYPE: PRT
ORGANISM: Homo sapiens
US-09-788-552-1

Query Match
Host Local Similarity 95.8%, Score 829, DB 10, Length 187
Matches 159, Conservative 1, Mismatches 6, Gaps 0

1 MAYAALGAGASSNFQCKLWLNQPLVYCEKPMNPEPEIKQLQCFKQKRAALTY 60
2 MSYNIHQFQSSNFQCKLWLNQPLVYCEKPMNPEPEIKQLQCFKQKRAALTY 81
3 EMLQNTFAIFPQSSSTGNNETIVENLANYVHQINHLKTVLEKLEKCFTRKLMSSL 120
4 EMLQNTFAIFPQSSSTGNNETIVENLANYVHQINHLKTVLEKLEKCFTRKLMSSL 141
5 EMLQNTFAIFPQSSSTGNNETIVENLANYVHQINHLKTVLEKLEKCFTRKLMSSL 166
6 EMLQNTFAIFPQSSSTGNNETIVENLANYVHQINHLKTVLEKLEKCFTRKLMSSL 187

RESULT 8
US-09-832-659-2
Sequence 2, Application US/09842659
Patent No. US20020155547A1
GENERAL INFO: BIOGEN, INC.
APPLICANT: BIOGEN, INC.
TITLE OF INVENTION: Interferon beta Fusion Proteins and Uses
FILE REFERENCE: A06467580
CURRENT FILING DATE: 2001-04-11
PRIOR APPLICATION NUMBER: 60/201,227
PRIOR FILING DATE: 1999-02-16
PRIOR APPLICATION NUMBER: 60/201,227
PRIOR FILING DATE: 1999-02-16
PRIOR APPLICATION NUMBER: 60/201,227
PRIOR FILING DATE: 1999-10-16
NUMBER OF SEQ ID NOS: 44
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 2
LENGTH: 399
TYPE: PRT
ORGANISM: murine
US-09-832-659-2

Query Match
Host Local Similarity 95.8%, Score 829, DB 9, Length 399
Matches 159, Conservative 1, Mismatches 6, Gaps 0

1 MAYAALGAGASSNFQCKLWLNQPLVYCEKPMNPEPEIKQLQCFKQKRAALTY 60
2 MSYNIHQFQSSNFQCKLWLNQPLVYCEKPMNPEPEIKQLQCFKQKRAALTY 81
3 EMLQNTFAIFPQSSSTGNNETIVENLANYVHQINHLKTVLEKLEKCFTRKLMSSL 120
4 EMLQNTFAIFPQSSSTGNNETIVENLANYVHQINHLKTVLEKLEKCFTRKLMSSL 141
5 EMLQNTFAIFPQSSSTGNNETIVENLANYVHQINHLKTVLEKLEKCFTRKLMSSL 166
6 EMLQNTFAIFPQSSSTGNNETIVENLANYVHQINHLKTVLEKLEKCFTRKLMSSL 187

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1b 61 EMLNLFATFEGDSSSTQWNLKJLWLNKLVNLYHUJNHUKLVLKLEKDFEFGALMSSL 166

QY 1.21 HKEVYGRFLHLYKAKYSSHZAMLYKVELLRFKRLKJLWLN 166

Db 1.21 HKEVYGRFLHLYKAKYSSHZAMLYKVELLRFKRLKJLWLN 166

RESULT 11

US-09-832-658-25

Sequence 25, Application US/09/832-658-25

Patent No. US2002/147107A1

GENERAL INFORMATION:

APPLICANT: Welford, Andrew

APPLICANT: Welford, Andrew

APPLICANT: Kelly, Michael

TITLE OF INVENTION: Interferon-like molecules and uses thereof

FILE REFERENCE: 99/472.8

CURRENT FILING DATE: 2001-08-10

PRIOR FILING DATE: 2001-08-10

PRIOR FILING DATE: 2000-11-24

PRIOR FILING DATE: 1999-12-08

NUMBER OF SEQ. ID NOS: 49

SOFTWARE: Patent In Vit. 2.0

SEQ. ID NO. 7

LENGTH: 167

TYPE: PRT

ORGANISM: Human

US-09-832-658-25

Query Match

Host Local Similarity: 95.28% Score: 820 DB: 10 Length: 166

Matches: 158 Conservative: 2 Miss-matches: 6 Gaps: 0

1 MAYAALGALGSSNPQKILWLNKLVNLYHUJNHUKLVLKLEKDFEFGALMSSL 60

2 EMLNLFATFEGDSSSTQWNLKJLWLNKLVNLYHUJNHUKLVLKLEKDFEFGALMSSL 120

3 EMLNLFATFEGDSSSTQWNLKJLWLNKLVNLYHUJNHUKLVLKLEKDFEFGALMSSL 141

4 EMLNLFATFEGDSSSTQWNLKJLWLNKLVNLYHUJNHUKLVLKLEKDFEFGALMSSL 166

5 EMLNLFATFEGDSSSTQWNLKJLWLNKLVNLYHUJNHUKLVLKLEKDFEFGALMSSL 187

RESULT 10

US-09-832-658-25

Sequence 25, Application US/09/832-658-25

Patent No. US2002/147107A1

GENERAL INFORMATION:

APPLICANT: Welford, Andrew

APPLICANT: Welford, Andrew

APPLICANT: Kelly, Michael

TITLE OF INVENTION: Interferon-like molecules and uses thereof

FILE REFERENCE: 99/472.8

CURRENT FILING DATE: 2001-08-10

PRIOR FILING DATE: 2001-08-10

PRIOR FILING DATE: 2000-11-24

PRIOR FILING DATE: 1999-12-08

NUMBER OF SEQ. ID NOS: 49

SOFTWARE: Patent In Vit. 2.0

SEQ. ID NO. 7

LENGTH: 166

TYPE: PRT

ORGANISM: Human

US-09-832-658-25

Query Match

Host Local Similarity: 95.28% Score: 820 DB: 10 Length: 166

Matches: 158 Conservative: 2 Miss-matches: 6 Gaps: 0

1 MAYAALGALGSSNPQKILWLNKLVNLYHUJNHUKLVLKLEKDFEFGALMSSL 60

2 EMLNLFATFEGDSSSTQWNLKJLWLNKLVNLYHUJNHUKLVLKLEKDFEFGALMSSL 120

3 EMLNLFATFEGDSSSTQWNLKJLWLNKLVNLYHUJNHUKLVLKLEKDFEFGALMSSL 141

4 EMLNLFATFEGDSSSTQWNLKJLWLNKLVNLYHUJNHUKLVLKLEKDFEFGALMSSL 166

5 EMLNLFATFEGDSSSTQWNLKJLWLNKLVNLYHUJNHUKLVLKLEKDFEFGALMSSL 187

QY 1 MAYAALGALGSSNPQKILWLNKLVNLYHUJNHUKLVLKLEKDFEFGALMSSL 60

Db 1 MSYNLGFLOFSSNPQKILWLNKLVNLYHUJNHUKLVLKLEKDFEFGALMSSL 60

QY 61 EMLNLFATFEGDSSSTQWNLKJLWLNKLVNLYHUJNHUKLVLKLEKDFEFGALMSSL 166

Db 61 EMLNLFATFEGDSSSTQWNLKJLWLNKLVNLYHUJNHUKLVLKLEKDFEFGALMSSL 166

RESULT 11

US-09-832-658-25

Sequence 25, Application US/09/832-658-25

Patent No. US2002/147107A1

GENERAL INFORMATION:

APPLICANT: Bogen, Ina

APPLICANT: Bogen, Ina

APPLICANT: Bogen, Ina

APPLICANT: Bogen, Ina

APPLICANT: Bogen, Ina

APPLICANT: Bogen, Ina

APPLICANT: Bogen, Ina

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APPLICANT: Bogen, Ina

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APPLICANT: Bogen, Ina

APPLICANT: Bogen, Ina

APPLICANT: Bogen, Ina

APPLICANT: Bogen, Ina





Tue May 6 12:42:37 2003

us-09-832-658a-26.rappb

Page 6





XX anti-infective, anti-infective and anti-inflammatory; immunosuppressive;  
 KM cytoskeletal structure; hepatopathy and immunodeficiency; treatment; fibrosis;  
 KM multiple sclerosis; inflammatory disorder; autoimmune disease; cancer;  
 KM hepatitis viral infection; neovascularisation; IFN-beta-1a.  
 XX  
 OS Homo sapiens.  
 OS Struthio camelus.  
 PH Rv0001  
 PH Rv0002  
 PH Rv0003  
 PH Rv0004  
 PH Rv0005  
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 PH Rv0361  
 PH Rv0362  
 PH Rv

DE		Human interferon-beta alanine substituted mutant IFN $\beta$ A.
XX		
KW		Human, Interferon beta, IFN beta, Immunoreceptor fusion protein; mutant;
KM		antigenic sites; antiserum; anti-inflammatory; immunosuppressive;
KY		cysteic acid; virus-like hepatitis; autoantibodies; fibrosis; thrombotic
KV		multiple sclerosis? inflammatory disorder autoimmune disease cancer?
KP		hepatitis viral infection; liver metastasis; IFN-beta A.
XX		
OS		Homo sapiens.
SX		Synthetic.
FI		Key Location/Annotations
FH	Misc-difference 97 /note: "Wild type His is substituted by Ala"	
FT		
FX		
EN	bc02bb024472 A2.	
PD	27-Apr-2000.	
XX		
FE	15-OCT-1999. 96MR 0824200	
PB	16-FEB-1998. 98US-0104391	
PR	16-FEB-1999. 99US-0120237	
PA	(Bio) ) BIOGEN INC.	
PI	Whitty A., Runkel L., Brackemaet M., Fotherman B.	
XG	WT, 2000 439654/29.	
XX		
PT	fusion proteins comprising interferon-beta (a useful for inhibition	
PS	angiogenesis .	
XX		
XX	Example 1: Page 7: 42pp; English.	
CC	The patent discloses fusion proteins comprising glycosylated	
CC	interferon-beta (IFN-beta) especially IFN-beta19, linker groups and	
CC	non-IFN-beta fractions, especially an immunoglobulin (Ig) protein. The	
CC	fusion protein is useful for inhibiting angiogenesis in a patient.	
CC	It may also be used to treat multiple sclerosis, fibrosis, inflammatory	
CC	and autoimmune diseases, cancers, hepatitis and viral infection	
CC	bacterial infection; additionally, the present sequence is	
CC	a human interferon-beta alanine substituted mutant IFN $\beta$ A.	
CC	The mutant was analysed in antiviral assays to assess the effects	
CC	of mutating the histidines which chelate zinc in the crystal structure	
CC	dimer. The His mutants related wild type activity suggesting that	
CC	zinc-mediated dimer formation is not important for IFN beta activity.	
CC	Note: The present sequence is not shown in the specification but is	
CC	derived from wild type human IFN beta sequence found in page 56	
XX	(AAV70807).	
XX		
SD	Sequence 166 AA:	
QU	Query Match 98-98 Score 8627 LR 21 Length 166:	
BE	Best Local Similarity 99.4% Ident No. 166 Jnt	
MA	Matches 165 Conservative 0 Misses 1 Indels 0 Gaps 0	
OY	I KETVLKQSGEINHTLRLNLKLKLYLGSSNGSLLERGLAEELAKATITY 60	
DB	I MSYNLKILGPSNPVLEIWLINPELVLPIDPKDITFIRALGVSAATITY 60	
OY	DMLGGTAFEPGDSSSTGNLIWNLCANYSHQINDIKVLERKEKPDTGMSSSL 120	
DB	EMLDNIVAPFDSSSTGNMLEVINLAANYCHNAIKVEHKELKKDKTKLMMSNL 120	
OY	IEKYVTLRTHFAKLYEECAVVSEVFERYFGESVYAG 166	
DB	IEKVYSELLEYEKAYVSHAVTVLVLTINKRYTNLSYLN 166	
XX		









CC The sequence encodes a synthetic interferon-beta which has  
CC increased biological activity compared to natural IFN-beta, and  
CC which is more effective in the treatment of viral or neoplastic  
CC diseases or immunosuppressed or immunodeficient conditions.

XX Sequence 166 AA;

Query Match Best Local Similarity 98.5%; Score 859; DB 6; Length 166;  
Matches 164; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MSYNLAFTRSSNEQCKILMLQNLKLEYLKDQKMPDIPERFGQGPFFAATLY 60  
DB 1 MSYNLIGLQSSNFQCKILMLQNLKLEYLKDQKMPDIPERFGQGPFFAATLY 60  
QY 61 EMLQNLFAIFRDSSSTGNNETVENLLANVYHJINHLATVFERFERFGALMSS 120  
DB 61 EMLQNLFAIFRDSSSTGNNETVENLLANVYHJINHLATVFERFERFGALMSS 120  
QY 121 HLEKYYGPTLHYLKAKEYSHCAWTVEYELPNEYFINELGYLGN 156  
DB 121 HLEKYYGPTLHYLKAKEYSHCAWTVEYELPNEYFINELGYLGN 156

RESULT 11

AA61071 standard; protein; 166 AA.

XX AA61071:

03-OCT-2002 (update)

07 28-MAY-1991 (first entry)

XX oxidation resistant protein of Interferon-beta.

XX IL-2; IFN beta; colony stimulating factor; GSF-1; TPA; NGF.

XX Homo sapiens.

XX Key: Location/Qualifiers

XX Misc-difference 1..6 /note: "May be N terminal truncated or absent"

XX Misc-difference 17 /note: "May be any conservative AA"

XX Misc-difference 36 /note: "May be any conservative AA"

XX Misc-difference 62 /note: "May be any conservative AA"

XX Misc-difference 117 /note: "May be any conservative AA"

XX A08652451-A.

XX 31-JUL-1986.

XX 17-JAN-1986; 86AU-0052451.

XX 17-DEC-1985; 85US-0810656.

XX 18-JAN-1985; 85US-0692596.

XX 05-NOV-1986; 86AU-0064846.

XX 05-AUG-1986; 86US-0893186.

XX (CETU) (CETUS) CDRP.

XX Korhs Kt, Halsebeck Rf, Imms MA;

XX WP1; 1986-219075/37.

XX Oxidn. resistant mutagen(s) prepd. by replacing  
XX oxidn.-sensitive methionine with conservative aminoacid  
XX Claim 5; Page 50; 50pp; English.

CC Modified peptide has residues susceptible to chloramine T and  
CC peroxide oxidation replaced with conservative AAs. Mutagen is thus  
CC resistant to oxidation. Other proteins which may be similar  
CC rendered resistant include tissue plasminogen activator, colony  
CC stimulating factor and human growth factor.  
CC (Updated on 03-OCT-2002 to add missing GS field.)

XX Sequence 166 AA;

Query Match Best Local Similarity 98.5%; Score 859; DB 7; Length 166;  
Matches 164; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MSYNLAFTRSSNEQCKILMLQNLKLEYLKDQKMPDIPERFGQGPFFAATLY 60  
DB 1 MSYNLIGLQSSNFQCKILMLQNLKLEYLKDQKMPDIPERFGQGPFFAATLY 60  
QY 61 EMLQNLFAIFRDSSSTGNNETVENLLANVYHJINHLATVFERFERFGALMSS 120  
DB 61 EMLQNLFAIFRDSSSTGNNETVENLLANVYHJINHLATVFERFERFGALMSS 120  
QY 121 HLEKYYGPTLHYLKAKEYSHCAWTVEYELPNEYFINELGYLGN 166  
DB 121 HLEKYYGPTLHYLKAKEYSHCAWTVEYELPNEYFINELGYLGN 166

RESULT 12

AA670296 standard; protein; 166 AA.

XX AA670296:

07-JUN-1991 (first entry)

XX Sequence of Interferon-beta.

XX Antiviral; antiproliferative agent.

XX Homo sapiens.

XX EP237019-A.

XX 16-SEP-1987.

XX 10-MAR-1987; 87EP-0103406.

XX 14-MAR-1986; 86JP-0054650.

XX 26-DEC-1986; 86JP-0308693.

XX (TcPA) ToPAV IND INC.

XX Tanaka T, Kawano G, Sawada R;

XX WP1; 1987-258309/37.

XX Conjugates of interferon(s)-beta and -gamma - used as antivirals  
XX and anti-cell proliferatives with broader spectrum of activity  
XX and other, economically by recombinant DNA procedures

XX Claim 7; p35; 52pp; English.

CC The inventors claim an interferon conjugate wherein a C-terminal of  
CC the region exhibiting biological activities of interferon-beta has  
CC been linked to an N-terminal of the region exhibiting biological  
CC activities of interferon-gamma. The antiviral activity of the  
CC conjugate was tested using FL cells-sindbis virus system according  
CC to the CPE 50 inhibition method. Antiviral activity ranged from  
CC 200 u/ml to 14500 U/ml.

XX Sequence 166 AA;

Query Match Best Local Similarity 98.5%; Score 859; DB 8; Length 166;  
Matches 164; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

















[illegible]

Query Match	97.5%;	Score 850;	DB 9;	Length 423;
Best Local Similarity	98.2%;	Pred. No. 1,4e-77;		
Matches 1e3;	Conservative 0;	Mismatches 3;	Indels 0;	Gaps 0;

09 1 MSYNIACTPHESSNPNQWELWLNIN;PVPYTKIPNNNPDPKIKLQVQREDAALTY 60  
10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
12 25 MSYNIACTPHESSNPNQWELWLNIN;PVPYTKIPNNNPDPKIKLQVQREDAALTY 84

[illegible]

145 ILKPYVSHYHTFKAEYS<sup>146</sup>AWTIVPVETLPNFFINELTGYLPN 149

RESULT 13  
US-09-725-444  
Sequence 4, Application US/09725433  
Patent No. US2010058362A1

	GENERAL INFORMATION:
APPLICANT NO.	92-000768 OF 36
TITLE OF INVENTION:	Increased transgene expression in polyploid wheat
TITLE OF INVENTION:	attachment region

CURRENT APPLICATION NUMBER: 25,000,727,433  
CURRENT FILING DATE: 2000-11-29  
NUMBER OF SEQ ID NOS: 7

```

1 SEQ ID NO: 4
2     LENGTH: 197
3     TYPE: CDS
4     ORIGIN: Homo sapiens

```

Query Match	93.98	Score 819	DB 10	Length 187
Best Local Similarity	95.28	Pred. No. 6.4e-75		

```
07      1 MSYNLHETZSNFQVKTWLNRIEVLKRNELLPEELHOLDFGFAETATALLY 60
08      1 |-----|-----|-----|-----|-----|-----|-----|-----|
09      2 MSYNLEPDRSNTNLTETIWLNIENLEEVLFKRNELLPEELHOLFGEZEDAVMYR 81
```

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0Y      61 FMIQNFIAIFRODSSSTWNETIVENI.IANVHQJINH.KTVEEKEKENFTPRALMSL 120
        | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
0b      82 FMIQNFIAIFRODSSSTWNETIVENI.IANVHQJINH.KTVEEKEKENFTPRALMSL 141

```

DY 1 21 H K P Y V P L E I E T F A R E Y S H \* A M T I V P V E I L E N F Y R I N R L T G I L R N 166  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
DQ 1 42 H L K Y Y G P L I H Y I K A P T S H \* A M T I V P V E I L E N F Y V I N F L T V T P N I 187

RESULT 14  
US = 0.9 + 0.32 + 0.58 + 28  
September 1990, Affiliated to  
22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100

GENERAL INFORMATION  
APPLICANT: BIOGEN, INC.  
APPLICANT: Filing: F. No.

1 APPLICANT: Brickett, Margaret  
2 APPLICANT: Whitley, Adrian  
3 APPLICANT: Hoffman, Paula  
4 TITLE OF JUDICIAL POLICY: Adoption of Intestate Wills

FILE OF INVENTION: 2005  
FILE REFERENCE: A065PCT  
CURRENT APPLICATION NUMBER: 05/09,322,659  
CURRENT FILING DATE: 2001-04-11

PHOTO FILLING DATE: 1998-10-16

# THE HISTORY OF THE CITY OF LONDON FROM THE FOUNDATION OF THE CITY TO THE PRESENT TIME BY JOHN STOW. 1618.

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1 :
2 : PRIOR FILING DATE: 1999-02-15
3 :
4 : NUMBER OF SEQ ID NOS: 29
5 :
6 : SOFTWARE: FastSeq for Windows Version 4.0
7 :
8 : SEQ ID NO 28

```

```

TYPE: pr1
ORGANISM: human
03-09-85.2-5:38-28

```

Test Match	92.1%	Length 1661
Post Local Similarity	94.0%	Prod. No. 2-8-73
Matches	156: conserving	1: mismatches
		0: gaps

Case	Age	Sex	Duration of disease	Site of origin	Site of metastasis	Pathological findings	Immunohistochemical findings	Survival
1	60	M	10 years	Small intestine	Lung, liver, bone	Adenocarcinoma	CK20(+), CK7(+), CD56(-), CD117(-)	6 months
2	55	F	5 years	Small intestine	Lung, liver, bone	Adenocarcinoma	CK20(+), CK7(+), CD56(-), CD117(-)	12 months
3	65	M	8 years	Small intestine	Lung, liver, bone	Adenocarcinoma	CK20(+), CK7(+), CD56(-), CD117(-)	18 months
4	70	F	12 years	Small intestine	Lung, liver, bone	Adenocarcinoma	CK20(+), CK7(+), CD56(-), CD117(-)	24 months
5	68	M	15 years	Small intestine	Lung, liver, bone	Adenocarcinoma	CK20(+), CK7(+), CD56(-), CD117(-)	30 months
6	72	F	18 years	Small intestine	Lung, liver, bone	Adenocarcinoma	CK20(+), CK7(+), CD56(-), CD117(-)	36 months
7	75	M	20 years	Small intestine	Lung, liver, bone	Adenocarcinoma	CK20(+), CK7(+), CD56(-), CD117(-)	42 months
8	78	F	22 years	Small intestine	Lung, liver, bone	Adenocarcinoma	CK20(+), CK7(+), CD56(-), CD117(-)	48 months
9	80	M	24 years	Small intestine	Lung, liver, bone	Adenocarcinoma	CK20(+), CK7(+), CD56(-), CD117(-)	54 months
10	82	F	26 years	Small intestine	Lung, liver, bone	Adenocarcinoma	CK20(+), CK7(+), CD56(-), CD117(-)	60 months

61 EMILIN1A1FPG2GSSSTFWNETITVFNLAVNALVIAHAAVIFFRLEKPIPTPVALMSSTL 120

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

US-CG-330-CEB-07  
Sequence 27, Application US/09/842658  
Publication No. US2010021765A1

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APPLICANT: Hochman, Paula  
TITLE OF INVENTION: Polymer Conjugates of Interferon Beta-1a  
TITLE OF INVENTION: and Uses

CURRENT AFFILIATION NUMBER: 65707632,658  
CURRENT FILING DATE: 2001-04-11  
PRIOR APPLICATION NUMBER: 65704,572  
PENDING DATE: 1998-10-16

FROM AFFILIATION: HOBBS, 602.120.1601  
PRIOR FILING DATE: 1999-02-16  
NUMBER OF SEQ ID NOS: 29  
SOFTWARE: FASTSEQ for Windows Version 4.0

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: LENGTH: 166
: TYPE: PRT
: OPERANISM: human

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Query Match	92.0%	Score 802	508.9	Length 666
Best Local Similarity	92.8%	Prod. No. 2	46073	
Matched	154	Number of	10	0
			143.17	0

[illegible]

Run	Sample	Temperature, °C	Time, min	Flow rate, ml/min	Detector response
1	100% PMMA	100	10	1.0	1.0
2	100% PMMA	100	10	1.0	1.0
3	100% PMMA	100	10	1.0	1.0
4	100% PMMA	100	10	1.0	1.0
5	100% PMMA	100	10	1.0	1.0
6	100% PMMA	100	10	1.0	1.0
7	100% PMMA	100	10	1.0	1.0
8	100% PMMA	100	10	1.0	1.0
9	100% PMMA	100	10	1.0	1.0
10	100% PMMA	100	10	1.0	1.0
11	100% PMMA	100	10	1.0	1.0
12	100% PMMA	100	10	1.0	1.0
13	100% PMMA	100	10	1.0	1.0
14	100% PMMA	100	10	1.0	1.0
15	100% PMMA	100	10	1.0	1.0
16	100% PMMA	100	10	1.0	1.0
17	100% PMMA	100	10	1.0	1.0
18	100% PMMA	100	10	1.0	1.0
19	100% PMMA	100	10	1.0	1.0
20	100% PMMA	100	10	1.0	1.0
21	100% PMMA	100	10	1.0	1.0
22	100% PMMA	100	10	1.0	1.0
23	100% PMMA	100	10	1.0	1.0
24	100% PMMA	100	10	1.0	1.0
25	100% PMMA	100	10	1.0	1.0
26	100% PMMA	100	10	1.0	1.0
27	100% PMMA	100	10	1.0	1.0
28	100% PMMA	100	10	1.0	1.0
29	100% PMMA	100	10	1.0	1.0
30	100% PMMA	100	10	1.0	1.0
31	100% PMMA	100	10	1.0	1.0
32	100% PMMA	100	10	1.0	1.0
33	100% PMMA	100	10	1.0	1.0
34	100% PMMA	100	10	1.0	1.0
35	100% PMMA	100	10	1.0	1.0
36	100% PMMA	100	10	1.0	1.0
37	100% PMMA	100	10	1.0	1.0
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44	100% PMMA	100	10	1.0	1.0
45	100% PMMA	100	10	1.0	1.0
46	100% PMMA	100	10	1.0	1.0
47	100% PMMA	100	10	1.0	1.0
48	100% PMMA	100	10	1.0	1.0
49	100% PMMA	100	10	1.0	1.0
50	100% PMMA	100	10	1.0	1.0
51	100% PMMA	100	10	1.0	1.0
52	100% PMMA	100	10	1.0	1.0
53	100% PMMA	100	10	1.0	1.0
54	100% PMMA	100	10	1.0	1.0
55	100% PMMA	100	10	1.0	1.0
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57	100% PMMA	100	10	1.0	1.0
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61	100% PMMA	100	10	1.0	1.0
62	100% PMMA	100	10	1.0	1.0
63	100% PMMA	100	10	1.0	1.0
64	100% PMMA	100	10	1.0	1.0
65	100% PMMA	100	10	1.0	1.0

[illegible]

Search completed: May 6, 2003, 10:03:45

Tue May 6 12:42:34 2003

us-09-832-658a-25.rapb

Page 6



Match: 166; Conservative: 0; Mismatches: 0; Indels: 0; Gaps: 0;

QY 1 MSYNLGFQRRSSNPOQKILMOLNGLRYCKKDRMNPDPPEIKOQOQKIDAAALTY 60  
 DB 1 MSYNLGFQRRSSNPOQKILMOLNGLRYCKKDRMNPDPPEIKOQOQKIDAAALTY 60  
 QY 61 EMLONIFALFQDSSSTGNNETIVENILANYHQUINILKIVLEKKEDEFTGALMSSL 120  
 DB 61 EMLONIFALFQDSSSTGNNETIVENILANYHQUINILKIVLEKKEDEFTGALMSSL 120  
 QY 121 HLRKYGRILHLYLAKKESYSHCAWTVVVELLNRYKINRLCYLRN 166  
 DB 121 HLRKYGRILHLYLAKKESYSHCAWTVVVELLNRYKINRLCYLRN 166

#### RESULT 2

US-09-832-658a-25  
 ? Sequence 5; Application US/090814497  
 ? GENERAL INFORMATION:  
 ? APPLICANT: COX LTD, George N.  
 ? TITLE OF INVENTION: Activators of Growth Hormone and Related Proteins  
 ? FILE REFERENCE: 060011  
 ? CURRENT APPLICATION NUMBER: PCT/US99/24497  
 ? CURRENT FILING DATE: 1998-07-14  
 ? EARLIER APPLICATION NUMBER: 60/052,516  
 ? EARLIER FILING DATE: 1997-07-14  
 ? NUMBER OF SEQ ID NOS: 41  
 ? SOFTWARE: Patout to Ver. 2.0  
 ? SEQ ID NO 5  
 ? LENGTH: 166  
 ? TYPE: PRT  
 ? ORGANISM: Homo sapiens  
 Pct US99 1449/5

Query Match: 98.8%; Score 859; DB 1; Length 166;  
 Best Local Similarity: 98.8%; Pred. No. 4, 60-80;

Matches: 164; Conservative: 0; Mismatches: 2; Indels: 0; Gaps: 0;

QY 1 MSYNLGFQRRSSNPOQKILMOLNGLRYCKKDRMNPDPPEIKOQOQKIDAAALTY 60  
 DB 1 MSYNLGFQRRSSNPOQKILMOLNGLRYCKKDRMNPDPPEIKOQOQKIDAAALTY 60  
 QY 61 EMLONIFALFQDSSSTGNNETIVENILANYHQUINILKIVLEKKEDEFTGALMSSL 120  
 DB 61 EMLONIFALFQDSSSTGNNETIVENILANYHQUINILKIVLEKKEDEFTGALMSSL 120  
 QY 121 HLRKYGRILHLYLAKKESYSHCAWTVVVELLNRYKINRLCYLRN 166  
 DB 121 HLRKYGRILHLYLAKKESYSHCAWTVVVELLNRYKINRLCYLRN 166

#### RESULT 3

US-09-157-008-7  
 ? Sequence 7; Application US/09157008  
 ? GENERAL INFORMATION:  
 ? APPLICANT: Battelle, Franklin  
 ? APPLICANT: Francis J. Grant  
 ? APPLICANT: Mark W. Rixon  
 ? APPLICANT: Wayne Kinnsogel  
 ? TITLE OF INVENTION: Interleukin epsilon  
 ? FILE REFERENCE: 98-46  
 ? CURRENT APPLICATION NUMBER: US/09/157,008  
 ? CURRENT FILING DATE: 1998-09-18  
 ? NUMBER OF SEQ ID NOS: 17  
 ? SOFTWARE: FastSeq for Windows Version 4.0  
 ? SEQ ID NO 7  
 ? LENGTH: 166  
 ? TYPE: PRT  
 ? ORGANISM: Homo sapiens  
 US-09-157-008-7

Query Match: 98.5%; Score 859; DB 15; Length 166;

Best Local Similarity: 98.8%; Pred. No. 4, 60-80;  
 Matches: 164; Conservative: 0; Mismatches: 2; Indels: 0; Gaps: 0;

QY 1 MSYNLGFQRRSSNPOQKILMOLNGLRYCKKDRMNPDPPEIKOQOQKIDAAALTY 60  
 DB 1 MSYNLGFQRRSSNPOQKILMOLNGLRYCKKDRMNPDPPEIKOQOQKIDAAALTY 60  
 QY 61 EMLONIFALFQDSSSTGNNETIVENILANYHQUINILKIVLEKKEDEFTGALMSSL 120  
 DB 61 EMLONIFALFQDSSSTGNNETIVENILANYHQUINILKIVLEKKEDEFTGALMSSL 120  
 QY 121 HLRKYGRILHLYLAKKESYSHCAWTVVVELLNRYKINRLCYLRN 166  
 DB 121 HLRKYGRILHLYLAKKESYSHCAWTVVVELLNRYKINRLCYLRN 166

#### RESULT 4

US-09-245-293-7  
 ? Sequence 7; Application US/09245293  
 ? GENERAL INFORMATION:  
 ? APPLICANT: Conklin, Francis J.  
 ? APPLICANT: Grant, Francis J.  
 ? APPLICANT: Rixon, Mark W.  
 ? APPLICANT: Kinnsogel, Wayne  
 ? TITLE OF INVENTION: INTERFERON EPSILON  
 ? FILE REFERENCE: 98-46X2  
 ? CURRENT APPLICATION NUMBER: US/09/245,293  
 ? CURRENT FILING DATE: 1999-02-05  
 ? NUMBER OF SEQ ID NOS: 25  
 ? SOFTWARE: FastSeq for Windows Version 4.0  
 ? SEQ ID NO 7  
 ? LENGTH: 166  
 ? TYPE: PRT  
 ? ORGANISM: Homo sapiens  
 US-09-245-293-7

Query Match: 98.5%; Score 859; DB 16; Length 166;  
 Best Local Similarity: 98.8%; Pred. No. 4, 60-80;

Matches: 164; Conservative: 0; Mismatches: 2; Indels: 0; Gaps: 0;

QY 1 MSYNLGFQRRSSNPOQKILMOLNGLRYCKKDRMNPDPPEIKOQOQKIDAAALTY 60  
 DB 1 MSYNLGFQRRSSNPOQKILMOLNGLRYCKKDRMNPDPPEIKOQOQKIDAAALTY 60  
 QY 61 EMLONIFALFQDSSSTGNNETIVENILANYHQUINILKIVLEKKEDEFTGALMSSL 120  
 DB 61 EMLONIFALFQDSSSTGNNETIVENILANYHQUINILKIVLEKKEDEFTGALMSSL 120  
 QY 121 HLRKYGRILHLYLAKKESYSHCAWTVVVELLNRYKINRLCYLRN 166  
 DB 121 HLRKYGRILHLYLAKKESYSHCAWTVVVELLNRYKINRLCYLRN 166

#### RESULT 5

US-09-350-232-7  
 ? Sequence 7; Application US/09350232  
 ? GENERAL INFORMATION:  
 ? APPLICANT: Conklin, Francis J.  
 ? APPLICANT: Grant, Francis J.  
 ? APPLICANT: Rixon, Mark W.  
 ? APPLICANT: Kinnsogel, Wayne  
 ? TITLE OF INVENTION: Interleukin epsilon  
 ? FILE REFERENCE: 98-46  
 ? CURRENT APPLICATION NUMBER: US/09/350,232  
 ? CURRENT FILING DATE: 1999-07-08  
 ? NUMBER OF SEQ ID NOS: 25  
 ? SOFTWARE: FastSeq for Windows Version 4.0  
 ? SEQ ID NO 7  
 ? LENGTH: 166  
 ? TYPE: PRT  
 ? ORGANISM: Homo sapiens  
 US-09-350-232-7

Query Match: 98.58; Score 859; DH 17; Length 166;  
Best Local Similarity: 98.88; Pred. No. 4,60-80;  
Matches 164; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

[illegible]

KEISHI, I.

1 STATEMENT: Application US/03/403542H  
 2 GENERAL: IP: PATT 21  
 3 APPLICANT: Schneider-Prosenius, Christian  
 4 APPLICANT: Otto, Bernd  
 5 APPLICANT: Maschütz, Gero  
 6 TITLE OF INVENTION: Verfahren zur Poertierung der Außen-  
 7 FILE OF INVENTION: Human Factors 1947, No 4, 1947, 1948 With Improv.  
 8 FILE REFERENCE: 127-65050  
 9 CURRENT ATTENTATION NUMBER: 2579, 437, 512B  
 10 CURRENT FILING DATE: 2000-02-22  
 11 FIRST APPLICATION NUMBER: 1947, 1948, 1949  
 12 FIRST FILING DATE: 1947, 1948, 1949  
 13 FIRST APPLICATION NUMBER: IE 1971784.2  
 14 FIRST FILING DATE: 1997-04-24  
 15 NUMBER OF SEQ ID NOS: 22  
 16 SOFTWARE: Patent In Vetr. 2.1  
 17 SEQ ID NO: 1  
 18 LENGTH: 166  
 19 TYPE: FRI  
 20 ORGANISM: Homo sapiens  
 21 18-09-2018 15:42H-1

Query Match	98.5%	Score 459	DB 8	Length 166
Best Local Similarity	98.8%	Prod No. 4,606-80		
Matches 164	Conservative 0	Miscellaneous 2	Indels 0	Gaps
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Db	1	MSYNIIGFQSSNENQXKTIWQINCPYLVLTQPRMEDIPEFIKIQIQGQKEDALITY	50	
QY	61	EMUNIFALFQDSSSTINNETIVENI LANYHOINHLKYLEEKELEDFRGALMSLT	12	
Db	61	EMUNIFALFQDSSSTINNETIVENI LANYHOINHLKYLEEKELEDFRGALMSLT	12	
QY	121	HKRYYGRIILHFLKAEYSHCAMTIVVEIIRNFYRINLTQGLRN	166	
Db	121	HKRYYGRIILHFLKAEYSHCAMTIVVEIIRNFYRINLTQGLRN	166	

xxviii 7

1 Sequence of Applicant: US-00469041  
 2 GENERAL INFORMATION:  
 3 APPLICANT: Cox III, George N  
 4 APPLICANT: Holder Biotechnology, Inc  
 5 TITLE OF INVENTION: Derivatives of Growth Hormone and Related Proteolysis  
 6 FILE REFERENCE: 4152-1-1PUS  
 7 CURRENT APPLICATION NUMBER: 4152-162-341  
 8 PREVIOUS PRT. DATE: 2000-01-11  
 9 PRIOR APPLICATION NUMBER: 60/002-516  
 10 PRIOR FILING DATE: 1997-07-14  
 11 NUMBER OF SEQ ID NOS: 41  
 12 SOFTWARE: Patent In Vnt. 2.0

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1 SEQ ID NO 5
2
3 LENGTH: 166
4
5 TYPE: PKI
6
7 ORGANISM: Homo sapiens
8
9 462-941-5

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2	100% COTTON T-SHIRT	101	10/10/2000	100	EA	1.00	100.00	OK	
3	100% COTTON T-SHIRT	102	10/10/2000	100	EA	1.00	100.00	OK	
4	100% COTTON T-SHIRT	103	10/10/2000	100	EA	1.00	100.00	OK	
5	100% COTTON T-SHIRT	104	10/10/2000	100	EA	1.00	100.00	OK	
6	100% COTTON T-SHIRT	105	10/10/2000	100	EA	1.00	100.00	OK	
7	100% COTTON T-SHIRT	106	10/10/2000	100	EA	1.00	100.00	OK	
8	100% COTTON T-SHIRT	107	10/10/2000	100	EA	1.00	100.00	OK	
9	100% COTTON T-SHIRT	108	10/10/2000	100	EA	1.00	100.00	OK	
10	100% COTTON T-SHIRT	109	10/10/2000	100	EA	1.00	100.00	OK	
11	100% COTTON T-SHIRT	110	10/10/2000	100	EA	1.00	100.00	OK	
12	100% COTTON T-SHIRT	111	10/10/2000	100	EA	1.00	100.00	OK	
13	100% COTTON T-SHIRT	112	10/10/2000	100	EA	1.00	100.00	OK	
14	100% COTTON T-SHIRT	113	10/10/2000	100	EA	1.00	100.00	OK	
15	100% COTTON T-SHIRT	114	10/10/2000	100	EA	1.00	100.00	OK	
16	100% COTTON T-SHIRT	115	10/10/2000	100	EA	1.00	100.00	OK	
17	100% COTTON T-SHIRT	116	10/10/2000	100	EA	1.00	100.00	OK	
18	100% COTTON T-SHIRT	117	10/10/2000	100	EA	1.00	100.00	OK	
19	100% COTTON T-SHIRT	118	10/10/2000	100	EA	1.00	100.00	OK	
20	100% COTTON T-SHIRT	119	10/10/2000	100	EA	1.00	100.00	OK	
21	100% COTTON T-SHIRT	120	10/10/2000	100	EA	1.00	100.00	OK	
22	100% COTTON T-SHIRT	121	10/10/2000	100	EA	1.00	100.00	OK	
23	100% COTTON T-SHIRT	122	10/10/2000	100	EA	1.00	100.00	OK	
24	100% COTTON T-SHIRT	123	10/10/2000	100	EA	1.00	100.00	OK	
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28	100% COTTON T-SHIRT	127	10/10/2000	100	EA	1.00	100.00	OK	
29	100% COTTON T-SHIRT	128	10/10/2000	100	EA	1.00	100.00	OK	
30	100% COTTON T-SHIRT	129	10/10/2000	100	EA	1.00	100.00	OK	
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34	100% COTTON T-SHIRT	133	10/10/2000	100	EA	1.00	100.00	OK	
35	100% COTTON T-SHIRT	134	10/10/2000	100	EA	1.00	100.00	OK	
36	100% COTTON T-SHIRT	135	10/10/2000	100	EA	1.00	100.00	OK	
37	100% COTTON T-SHIRT	136	10/10/2000	100	EA	1.00	100.00	OK	
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## RESULTS

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 104

Only match	Score	Length
Best local similarity	98.8%	100
Best local similarity	98.8%	100
Matches	164	Conservative
	21	Indels
	0	Gaps

6.1054d

Sequence 2: Application 05/05560722  
GENERAL INFORMATION:  
APPLICANT: Bouleton, Jorg  
TITLE OF INVENTION: REVEL SECRETLY ACTING AND BE HAVING WITH CHILDREN IN PUBLIC  
TITLE OF INVENTION: ACTIVITY  
CLASSIFICATION: A61K 31/00 (20060101)  
OFFICE RECEIVED DATE: 1999-05-12  
OFFICE RECEIVED DATE: 1999-05-12  
OFFICE RECEIVED DATE: 2000-05-11  
PRIORITY AFFILIATION NUMBER: 0558 562134, 785  
PRIORITY FILING DATE: 1999-05-12  
NUMBER OF SEQ. ID NOS.: 45

1 SOFTWARE: Patent In Ver. 2.1

2 SEQ ID NO 2

3 LENGTH: 166

4 ORGANISM: Homo sapiens

US-09-648-569-2

Query Match

Best Local Similarity 98.5% Score 859; DB 19; Length 166;

Matches 164; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

1 MSYNLFLGSSNFGVQKILWLNINLEPGIKPMNPIPERIKGLQCFKEDALITY 60

2 MSYNLFLGSSNFGVQKILWLNINLEPGIKPMNPIPERIKGLQCFKEDALITY 60

3 EMGNLFAIFQDSSSTGNNETVENILANVYHQLNKLTVLEKLEKEDFTKGLMSL 120

4 EMGNLFAIFQDSSSTGNNETVENILANVYHQLNKLTVLEKLEKEDFTKGLMSL 120

5 HLEKYYGRLLHYLAKKYSRCAWILVVEILLKNIYELINLGYLKN 166

6 HLEKYYGRLLHYLAKKYSRCAWILVVEILLKNIYELINLGYLKN 166

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1 TYPE: PRT

2 ORGANISM: Homo sapiens

3 LENGTH: 166

4 ORGANISM: Homo sapiens

US-09-648-569-2

Query Match

Best Local Similarity 98.5% Score 859; DB 20; Length 166;

Matches 164; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

1 MSYNLFLGSSNFGVQKILWLNINLEPGIKPMNPIPERIKGLQCFKEDALITY 60

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4 EMGNLFAIFQDSSSTGNNETVENILANVYHQLNKLTVLEKLEKEDFTKGLMSL 120

5 HLEKYYGRLLHYLAKKYSRCAWILVVEILLKNIYELINLGYLKN 166

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33 HLEKYYGRLLHYLAKKYSRCAWILVVEILLKNIYELINLGYLKN 166

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; LENGTH: 156
; TYPE: TXT
; ROMANISM: Homo sapiens
US-09-732 436-16

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Score Match	48.58	Score	859	DB	21	Length	166
Best Local Similarity	98.88	Pred. No.	4,66	80			
Matches	164	Conservative	0	Mismatches	2	Indels	0
						Caps	0

[illegible]

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1  BEST 14
2  US-07-32-460-16
3  Sequence 16, Application US/097324360
4  GENERAL INFORMATION:
5  APPLICANT: Playaa, Subhidas K
6  APPLICANT: Shimkets, Richard A
7  TITLE OF INVENTION: Novel Polypeptides and Polynucleotides Encoding Same
8  FILE REFERENCE: 15969-615
9  CURRENT AFFILIATION NUMBER: 05/07/752,4360
10 CURRENT FILING DATE: 2000.12.07
11 PRIOR APPLICATION NUMBER: 60/769,987
12 PRIOR FILING DATE: 1997.12.09
13 PRIOR APPLICATION NUMBER: 60/770,230
14 PRIOR FILING DATE: 1997.12.10
15 NUMBER OF SEQ ID NOS: 24
16 SOFTWARE: PatentIn Ver. 2.1
17 SEQ ID NO: 16
18 LENGTH: 146
19 TYPE: CDS
20 ORGANISM: Homo sapiens
21 US-07-32-460-16

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Query Match	98.58%	Score 859	DB 21	Length 166
blast Local Similarity	98.68%	Prot. No. 4.66-80		
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DB	1	MSVNLGFGQSNLQVQVETWLNRLNRLVLRKRDVFEERKQVQVSTDAATVY	60	
QY	61	EMGNLFAFTRQSSALNRRIVIRIYANYHLLNLEYLEERLRRQVFRQALMSL	120	
DB	61	EMGNLFAFTRQSSALNRRIVIRIYANYHLLNLEYLEERLRRQVFRQALMSL	120	
QY	121	HKRYVRLTHIKAKVYSHCAWTVKVLINLRFNFRKRLGYLGN	166	
DB	121	HKRYVRLTHIKAKVYSHCAWTVKVLINLRFNFRKRLGYLGN	166	

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RESULT 15
: US-09-791-537-95293
: SEQUENCE: 95293, Application US/09791537
: GENERAL INFORMATION:
: APPLICANT: Biocomix, Inc.
: APPLICANT: Dyck, Derek
: APPLICANT: Janzer, Joseph
: TITLE OF INVENTION: THREE DIMENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMBERS
: TITLE OF INVENTION: METHODS OF USE THEREOF
: FILE REFERENCE: 261/210
: CURRENT APPLICATION NUMBER: US/09/791,537
: CURRENT FILING DATE: 2001-02-22

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: NUMBER OF SHQ ID NOS: 153055
: SOFTWARE: PatentIn version 4.0
: SHQ ID NO 95293
: LENGTH: 166
: TYPE: PR1
: ORGANISM: Fab1 LAU1A
US-09-791-547-95293

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Query Match 98.5% Score 859; IR 21; Length 166;
Post-local similarity 98.9%; Filt. No. 4; 200;
Matches 14; Conservative 0; Missed 2; Index 0; Gap
07 1 MSNLTGQPSNPGCVYKLRNDRVYKRNKIFIRKQVSKHVALITY 60
|||||
1b 1 MSNLTGQPSNPGCVYKLRNDRVYKRNKIFIRKQVSKHVALITY 60
|||||
07 61 EMQNFALPGSSSTNNELVNLVANYHDSNKKVLEKRFDTNLMSSL 120
|||||
1b 61 EMQNFALPGSSSTNNELVNLVANYHDSNKKVLEKRFDTNLMSSL 120
|||||
07 121 HLRKYGRIHMLKRLNSHAWTVAVETLRNRYNLETNYRN 106
|||||
1b 121 HLRKYGRIHMLKRLNSHAWTVAVETLRNRYNLETNYRN 106
|||||

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search completed: May  6, 2004, 10:00:59
job time : 142.5 secs

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Pending Nucleic Acid and/or Pending Amino Acid database searches now generate two sets of results. These databases were split into two parts to reduce the time needed to update the databases daily. The split freed up more machine time for processing searches.

Searches run against the Nucleic Acid Pending database produce two sets of results, with the extensions, **.rnpm** and **.rnpn**

Searches run against the Amino Acid Pending database produce two sets of results, with the extensions, **.rapm** and **.rapn**

*The Pending database search results should not be left in the case because they contain data that is confidential.*

